

Revision of the North American Hallodapini (Insecta: Hemiptera: Heteroptera: Miridae: Phylinae)

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ABSTRACT

The North American Hallodapini are revised. *Cyrtopeltocoris* Reuter includes 12 species, five of which (*C. brailovskyi*, n. sp., *C. fractifasciatus*, n. sp., *C. hallodapoides*, n. sp., *C. nudiprnotum*, n. sp., and *C. pronotosus*, n. sp.) are described as new. Five nominal species of *Cyrtopeltocoris* and three commingled species of *Sericophanes* Reuter are placed in synonymy, and a neotype is designated for *C. mexicanus* Carvalho and Costa. *Phoradendrepulus* Polhemus and Polhemus, described based on brachypterous males and females, is synonymized under *Cyrtopeltocoris*, new synonymy, and *P. myrmecomorphus* Polhemus and Polhemus is synonymized under *C. ajo* Knight. The new genus *Neocyrtopeltocoris*, described to include *Sericophanes triangularis* Knight (with *Sericophanes albomaculatus* Knight, *S. fuscicornis* Knight, and *S. nevadensis* Knight treated as junior synonyms) and *N. froeschneri*, n. sp., is placed in the Hallodapini. We provide habitus images, illustrations, measurements, and distribution maps for all taxa; genitalic illustrations for most taxa; and a key to the species of *Cyrtopeltocoris* and *Neocyrtopeltocoris* to aid in identification.

INTRODUCTION

Although most members of the Hallodapini are from the Mediterranean, Africa, and the Orient, a limited radiation exists in North America, with a single species recorded from Cuba. The genera *Mendozaphylus* Carvalho and Carpintero (1991), from Mendoza, Argentina, and

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Tibiopilus Carvalho and Costa (1993), from the Upper Amazon of Brazil, were placed in the Hallodapini by their authors but were transferred to the Phylini by Kerzhner and Schuh (1995), a position maintained as Phylini incertae sedis by Schuh and Menard (2013) and one that we follow based on the study of their original descriptions. We urge local collectors/specialists to help clarify the tribal position of these taxa.

Description of North American taxa in this group began with *Cyrtopeltocoris albofasciatus* Reuter (1876) and has proceeded in a piecemeal fashion since then, primarily by H.H. Knight (1918, 1930, 1941, 1968), often based on limited material. In preparing the present paper, we searched many collections in order to examine the maximum number of specimens in our efforts to revise *Cyrtopeltocoris*. The results include the description of five new species, the creation of nine new synonyms, and the transfer of four species from *Sericophanes* Reuter (Orthotylinae) to the Hallodapini, three of which are treated as synonyms. We also synonymize *Phoradendrepulus* Polhemus and Polhemus (1985) as a junior synonym of *Cyrtopeltocoris* and describe the new genus *Neocyrtopeltocoris* to accommodate under a single name (*S. triangularis* Knight) four previously described nominal species (*S. albomaculatus* Knight, *S. fuscicornis* Knight, *S. nevadensis* Knight, and *S. triangularis* Knight) from western North America that had been placed in *Sericophanes*, and describe *Neocyrtopeltocoris froeschneri*, n. sp., from Missouri.

Menard et al. (2014) corroborated the placement of *Cyrtopeltocoris* in the Hallodapini based on morphology and DNA sequence data, a conclusion that had been proposed by Kelton (1959) based on male genitalic morphology and accepted by Schuh (1974) in his work on classification of the Phylinae. In this paper we also add the new genus, *Neocyrtopeltocoris*, which is closely related to *Cyrtopeltocoris* based on external and genitalic morphology. Absent a broader analysis of relationships of hallodapine taxa, the North American fauna would appear to be closest to *Glaphyrocoris* Reuter and related genera from Africa and the southern Palearctic, based on the strong sexual dimorphism, relatively small size, head being concave behind, and the structure of the male genitalia, including the long slender endosoma and the large, elevated left paramere. Based on their many morphological similarities and geographical isolation, we postulate that all North American Hallodapini form a monophyletic group.

Most of the species covered in this paper are based on males collected at lights with no known associated females. For a few taxa, we have associated females, which are always brachypterous. It is common in ant-mimetic Hallodapini, some other members of the Phylinae (including nonmimetic forms), some Orthotylinae (e.g., Nichomachini [see Schuh, 1974], Ceratocapsini [see Henry, 2015]), and in ant-mimetic Mirinae (Herdoniini), for the males to be macropterous and the females to be weakly to strongly brachypterous. Nonetheless, there are exceptions to the general observation that males are always macropterous and females (nearly) always brachypterous. Within *Cyrtopeltocoris*, brachypterous males of *C. ajo* Knight were recognized as part of the original description (as *Phoradendrepulus myrmecomorphus* Polhemus and Polhemus); we have studied additional brachypterous specimens, as well as the macropterous male holotype of *C. ajo*.

Our cursory survey of the literature and available collections of Herdoniini (Mirinae) indicates that in representatives of at least two genera from western North America, *Dacerla* Signo-

ret and *Paradacerla* Carvalho and Usinger, both males and females are brachypterous, whereas in other herdoniines, most of which are from the New World, as well as *Sphinctothorax* Stål from Africa, the males are macropterous and the females brachypterous. In the western North American mirine taxa *Closterocoris* Uhler and *Cyphopelta* Van Duzee, currently placed in the Herdoniini, both males and females are macropterous. In other ant-mimetic mirid taxa, such as *Nicostratus* Distant (Deraeocorinae: Surinamellini) (Xu and Liu, 2007) from southeastern Asia and the Holarctic *Pilophorus* (Phylinae: Pilophorini), both males and females are macropterous (Schuh, 1984; Schuh and Schwartz, 1988; Yasunaga et al., 2019). Of the many myrmecomorphic Orthotylinae, it appears that all members of the Nichomachini show strong sexual dimorphism (see Schuh, 1974), as do many members of the New World Ceratocapsini, as well as *Tuxenella* Carvalho from Chile; the immense—but largely undescribed—Australian myrmecomorph fauna of Orthotylinae (e.g., Cassis and Wall, 2010) is not so easily characterized in this regard. In some weakly ant-mimetic taxa, such as the Holarctic/circumtropical genus *Tytthus* Fieber (Phylinae: Phylini), males of at least one species may be macropterous or brachypterous (Henry, 2012).

MATERIALS AND METHODS

Specimens/specimen data: Data for the more than 650 specimens examined for this study have been captured using the American Museum of Natural History instance of the Arthropod Easy Capture database (see Acknowledgments). All specimens bear a unique specimen identifier (USI) in the form AMNH_PBI 00000000; this alphanumeric is included on the USI label also in the form of a matrix code. Specimen data can be viewed in the descriptions presented below as well as online (<http://research.amnh.org/pbi/heteropterasespeciespage/>) and the iDigBio web portal.

We report data for male specimens of all species and for females of *Cyrtopeltocoris albofasciatus* Reuter, *C. ajo* Knight, *C. illini* Knight, and *Neocyrtopeltocoris triangularis* Knight; brachypterous females are also apparently known for *C. gracilentis* Knight (A.G. Wheeler, Jr., personal commun.). We also have examined approximately 40 additional females of what we believe may be *Cyrtopeltocoris* spp., but none of them can be associated with males based on locality data and we therefore had little confidence in placing identifications on them. Indeed, it is difficult to distinguish female *Cyrtopeltocoris* and *Neocyrtopeltocoris* specimens from some females of ant-mimetic Orthotylinae based on external appearance, and at the present time not possible to associate them with male-based species in the absence of information from taxa where both males and females were collected at the same locality.

Illustrations and images: We illustrate the endosoma of most species treated but the parameres and phallosome for only representative species because those structures possess few morphological novelties within the individual species. In the genitalic illustrations USI numbers corresponding to unique specimens are associated with most drawings. However, in a few instances we include additional drawings without attribution to a particular specimen, these having been rendered by one or more of us before we joined forces to produce a unified pre-

sensation of the New World Hallozapini. These “unassociated” drawings offer additional insight into the varied ways dissected genitalic structures, particularly the elongate endosoma, may be perceived under the microscope.

Habitus images were prepared using a Microptics/Visionary Digital photomicrographic system as developed by Roy Larimer. Multiple layers were stacked using Helicon Focus© software to produce the final high-depth-of-field images.

Measurements for all specimens except those of *C. ajo* Knight were prepared using digital micrometers attached to a movable stage, the data recorded directly into a spreadsheet in the form of calculated distances. All measurement data are in millimeters.

Host/habitat information: Many Miridae in the subfamily Phylinae are documented as associated with a particular plant taxon/taxa. No such unequivocal associations are known for the North American Hallozapini or for the preponderance of the much larger Old World hallozapine fauna, with the exception of *Eminoculus* spp. in South Africa (Schuh and Wu, 2008; see also: Schuh and Menard, 2013; Menard et al., 2014). Therefore, we do not include headings for Host/s in the species treatments but provide comments on apparent plant associations in the Discussion section for some species as a way of interpreting specimen label data or personal field observations.

Institutional sources, abbreviations, and curators: Specimens examined during this study come from the following museums. The respective curators and other indicated individuals made possible the loans that allowed us to study these infrequently collected and difficult-to-find taxa. Institutional abbreviations are those used in the Specimens Examined sections of the paper.

AMNH	American Museum of Natural History, New York; Randall T. Schuh (emeritus), Ruth Salas, and Jessica Ware
CAS	California Academy of Sciences, San Francisco; the late Paul Arnaud, Jr. and the late Norman Penny
CNC	Canadian National Insect Collection, Ottawa; Michael D. Schwartz
CSCA	California Department of Food and Agriculture, Sacramento; Alan Hardy
CSUC	Colorado State University, Fort Collins; the late Boris Kondratieff
CUIC	Cornell University Insect Collection, Ithaca, New York; E. Richard Hoebeke, James K. Liebherr
JTP	John T. Polhemus Collection; the late John T. Polhemus and Dan A. Polhemus
KU	University of Kansas, Snow Entomological Collection, Lawrence; Zachary Falin
MEMU	Mississippi State University, Mississippi Entomological Museum; Richard Brown (emeritus)
NCSU	North Carolina State University Insect Collection, Raleigh; Robert Blinn
ORSU	Oregon State University Insect Collection, Corvallis; the late John D. Lattin and Christopher Marshall
SDNH	San Diego Museum of Natural History; David Faulkner
SMNH	Swedish Museum of Natural History (Naturhistoriska Riksmuseet), Stockholm, Sweden; Gunvi Lindberg

TAMU	Texas A & M University Insect Collection, College Station; the late Joseph C. Schaffner and Edward Riley
UAZ	University of Arizona Insect Collection, Tucson; the late Floyd Werner
UCB	University of California at Berkeley, Essig Museum of Entomology; the late John Chemsak and Cheryl Barr
UCD	University of California at Davis, R.M. Bohart Museum of Entomology; the late Robert Schuster
UCR	University of California Riverside, Entomology Research Museum; Saul I. Frommer, John D. Pinto, and Douglas A. Yanega
UNAM	Instituto Nacional de Biología, Universidad Nacional Autónoma de México, Mexico City; Harry Brailovsky
USNM	[United States] National Museum of Natural History, Smithsonian Institution, Washington, DC; Thomas J. Henry
WFBM	University of Idaho, William F. Barr Entomological Museum, Moscow; Frank Merikel

KEY TO THE MACROPTEROUS MALES OF NORTH AMERICAN HALLODAPINI

(Brachypterous males may be associated with the respective species based primarily on male genitalia, in combination with distribution and certain diagnostic characters; females may be recognized only by their association with males)

1. Transverse fascia on hemelytra more less parallel sided, although sometimes uneven and/or broken (figs. 1–3) *Cyrtopeltocoris*2
- Transverse fascia on hemelytra formed by two roughly triangular markings with their apices directed toward the midline (fig. 7) (*Neocyrtopeltocoris*)14
2. Scutellum in male in the form of an elongate, heavy spine, curving posteriorly (fig. 2); head more or less spherical in dorsal view; posterior margin of eye not reaching posterior margin of head; eyes removed from anterior margin of pronotum by about the length of an eye as measured from above (fig. 2); Illinois.....*C. illini* Knight
- Scutellum in male sometimes swollen, moderately elevated or conical but never in the form of a spine as above; head transverse and somewhat triangular as viewed from above, never globose; posterior margin of eye reaching posterior margin of head and attaining level of anterior margin of pronotum3
3. Pronotum laterally smooth, devoid of setae, in contrast to weakly rugose medial portion with short, recumbent setae4
- Pronotum of nearly uniform texture and vestiture over entire surface5
4. Base of clypeus and front edge of frons even, forming a smooth arch; right paramere relatively elongate and slender; endosoma as in fig. 3; Baja California Norte and Sur, Mexico, and southern California*C. nudipronotum*, n. sp.
- Base of clypeus lower than front edge of frons, forming a distinct notch, best viewed in lateral aspect; right paramere (fig. 4) large and broad; endosoma (fig. 4); USA: southern Arizona (brachypterous males known; fig. 1)*C. ajo* Knight
5. Transverse hemelytral fascia offset and/or broken at claval suture (figs. 1–3)6

- Transverse hemelytral fascia continuous, not offset or broken at claval suture (figs. 1–3). 8
- 6. Overall coloration dark brown to castaneous; white mark anterior to cuneus quadrate to elongate, stopping well short of inner corial margin bordering hemelytral membrane; ostiolar evaporative area reddish brown 7
- Overall coloration reddish brown; white mark anterior to cuneus quadrate, extending nearly to inner corial margin (fig. 1); ostiolar evaporative area white; Cuba *C. cubanus* Poppius
- 7. Smaller species, total length 3.46 mm; transverse hemelytral fascia offset and broken at claval suture (fig. 2); endosoma (fig. 4); Baja California Sur, Mexico *C. fractifasciatus*, n. sp.
- Larger species, total length 3.95 mm; transverse hemelytra fascia offset, but not broken at claval suture (fig. 3); endosoma (fig. 5); Baja California Sur, Mexico *C. pronotosus*, n. sp.
- 8. Ostiolar evaporative area white 9
- Ostiolar evaporative area reddish brown 11
- 9. Base of clypeus lower than front edge of frons, forming a distinct notch, best visible in lateral aspect; white mark anterior to cuneus not reaching inner margin of corium bordering hemelytral membrane; endosoma with a laterally dentate membranous lobe apically, and ending in a bird-head-like dentate membranous apex, but lacking a sclerotized band as seen in *C. albofasciatus*; Arizona *C. huachucae* Knight
- Base of clypeus even with front edge of frons, forming a smooth arch; white mark anterior to cuneus nearly extending to inner margin of corium 10
- 10. Transverse hemelytral fascia broad, length subequal to length of brown area across base of corium and clavus (fig. 3); scutellum relatively flat, only slightly convex; white mark anterior to cuneus quadrate, width subequal to length; Baja California, Mexico, and Arizona and southern California *C. mexicanus* Carvalho and Costa
- Transverse hemelytral fascia much narrower, not nearly subequal to length of dark area across base of corium and clavus (fig. 2); scutellum strongly conical, nearly attaining height of pronotum, best viewed in lateral aspect; white mark anterior to cuneus elongate, much wider than long; eastern United States *C. gracilentis* Knight
- 11. Pronotum at least partially polished, although sometimes rugulose; coloration of appendages variable, usually paler reddish brown or yellowish brown 13
- Pronotum entirely granular and dull; all appendages dark reddish brown 12
- 12. Antennal segments II–IV with numerous erect setae longer than diameter of segments; pronotum almost flattened, best viewed in lateral aspect (fig. 2); apical membrane of endosoma bearing a dartlike spine (fig. 4) Baja California Sur, Mexico *C. hallodapoides*, n. sp.
- Antennal segments II–IV with short, recumbent vestiture; pronotum distinctly convex, best viewed in lateral aspect (fig. 1); apex of endosoma without dartlike spine as above; Oaxaca, Mexico *C. brailovskyi*, n. sp.
- 13. Head, pronotum, and scutellum reddish brown, contrasting with a darker brown cuneus and posterior half of corium; vertex broad, eyes small (fig. 3) in dorsal view; margins of transverse hemelytral fascia and white mark anterior to cuneus diffuse or indistinct (fig. 3); legs pale yellowish brown, often tinged with red or reddish brown; endosoma robust, apex becoming acuminate beyond secondary gonopore with a triangular flap (fig. 5); Arizona, California, and Nevada. *C. rubripes* (Knight)
- Head, pronotum, and scutellum uniformly dark brown to dark reddish brown; vertex less broad, eyes proportionately larger (fig. 1); margins of transverse fascia and white mark anterior to cuneus sharp, well defined; legs uniformly dark reddish brown; endosoma relatively slender, with a sclerotized band distad of secondary gonopore and a membranous flaplike apex (fig. 4); Mexico and southwestern United States *C. albofasciatus* Reuter

14. General coloration of dorsum usually strongly orange to reddish orange; cuneus darker reddish orange (fig. 7); larger mean total length 3.66 mm; southwestern United States *N. triangularis* (Knight)
- General coloration of dorsum dark brown, weakly contrasting with the dark reddish-brown cuneus (fig. 7); smaller mean total length 2.97 mm; northwestern Missouri *N. froeschneri*, n. sp.

Cyrtopeltocoris Reuter

Cyrtopeltocoris Reuter, 1876: 81 (new genus); Carvalho, 1958: 136 (catalog); Schuh, 1974: 301 (tribal placement); Henry and Wheeler, 1988: 455 (catalog); Schuh, 1995: 219 (catalog); Schuh, 2002–2013 (online catalog). TYPE SPECIES: *Cyrtopeltocoris albofasciatus* Reuter. Fixation by monotypy.

Phoradendrepulus Polhemus and Polhemus, 1985: 26 (new genus); Henry and Wheeler, 1988: 442 (catalog); Schuh, 1995: 233 (catalog); Schuh, 2002–2013 (online catalog). New synonym. TYPE SPECIES: *Phoradendrepulus myrmecomorphus* Polhemus and Polhemus, 1985. Fixation by monotypy.

DIAGNOSIS: *Male*: Recognized among North American Miridae by the following combination of characters: flattened pronotal collar; usually macropterous (but see description of brachypterous *C. ajo*), hemelytra more or less parallel sided, complete or nearly complete white or pale transverse fascia at level of apex of scutellum or slightly posterior (figs. 1–3), stridulitrum on costal margin of hemelytron and plectrum on the inner or posterior side of the hind femur (see also: Schuh, 1984: figs. 374, 375; Henry, 2015, fig. 111; Yasunaga et al., 2019: figs. 45–55, 89, 90, 96, 97, etc.), setiform parempodia, and minute pulvilli; endosoma long, filamentous, apex variously ornamented apicad of secondary gonopore (figs. 4–5).

Brachypterous male: Most of abdomen exposed beyond truncate apex of hemelytra (fig. 1); stridulitrum and plectrum present as in macropters; strongly antlike as in female. See descriptions under *C. ajo*.

Female: Always strongly brachypterous, most of abdomen exposed beyond truncate apex of hemelytra (fig. 1); stridulitrum and plectrum present as in males; strongly antlike.

Among New World Phylinae, similar to *Neocyrtopeltocoris*, new genus, but the former with the transverse hemelytral fascia always more or less parallel sided (figs. 1–3), the fascia in the latter formed by two triangles with their apices pointed toward the midline (fig. 7). Appearance superficially similar to *Sericophanes* Reuter among New World orthotyline genera, but easily distinguished by the structure of male and female genitalia and the setiform parempodia.

Brachypterous males and females are recognized by the triangular head; quadrate pronotum with round anterior angles and more quadrate posterior angles, and the narrow flattened collar; scutellum broadly exposed with a conical tubercle; hemelytron abbreviated, extending to about abdominal tergum III, deeply concave through middle and rounded apically (and cupped ventrally), cuneus and membrane absent, costal margin with a distinct stridulitrum on distal two-thirds; abdomen broadly rounded, narrowing posteriorly; legs relatively slender, hind femur with a plectrum formed as a single ridge on inner basal half; tibiae with pro-

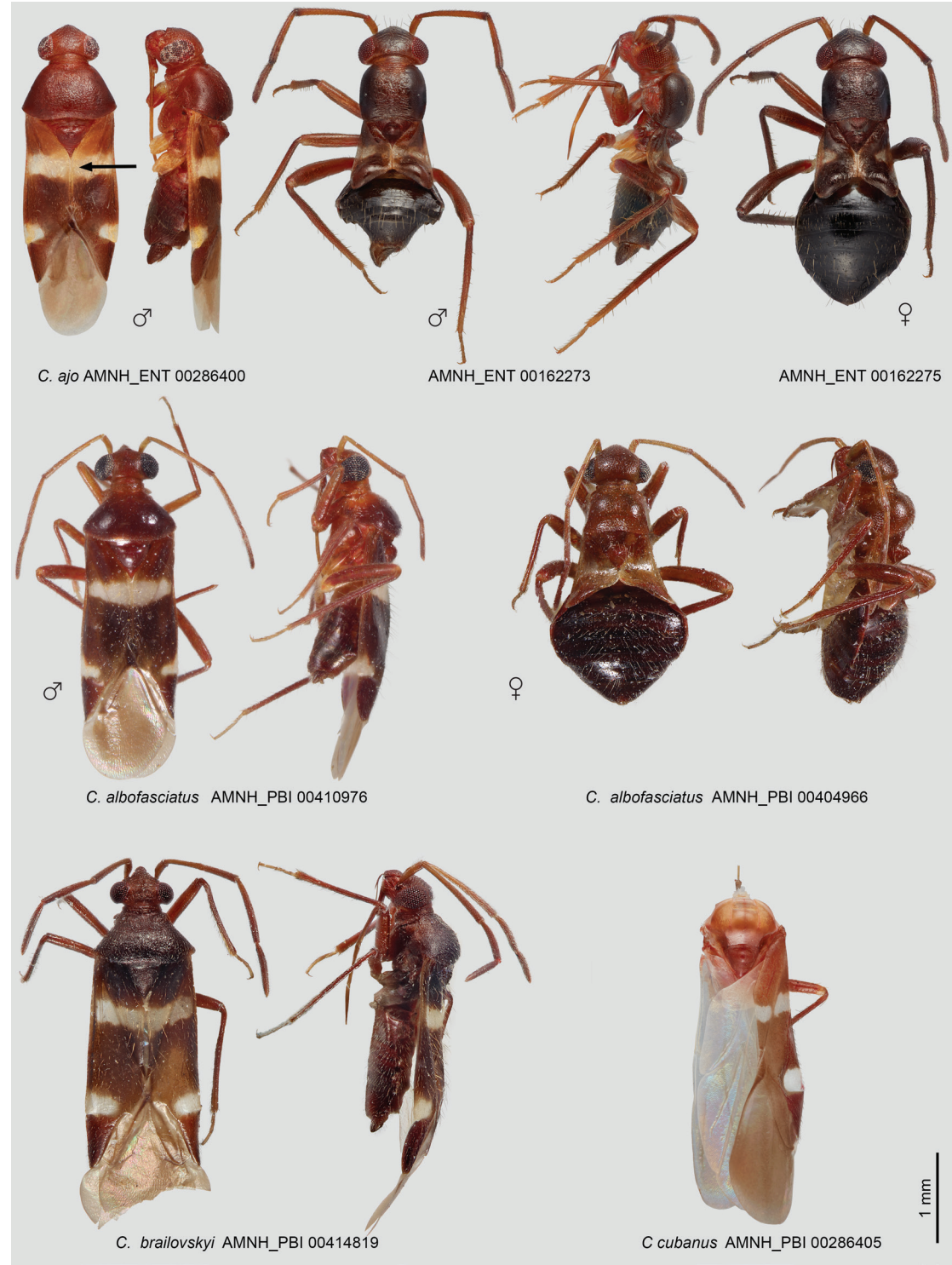


FIG. 1. Dorsal habitus and lateral view images of *Cyrtopeltocoris* spp., *C. ajo*–*C. cubanus*.

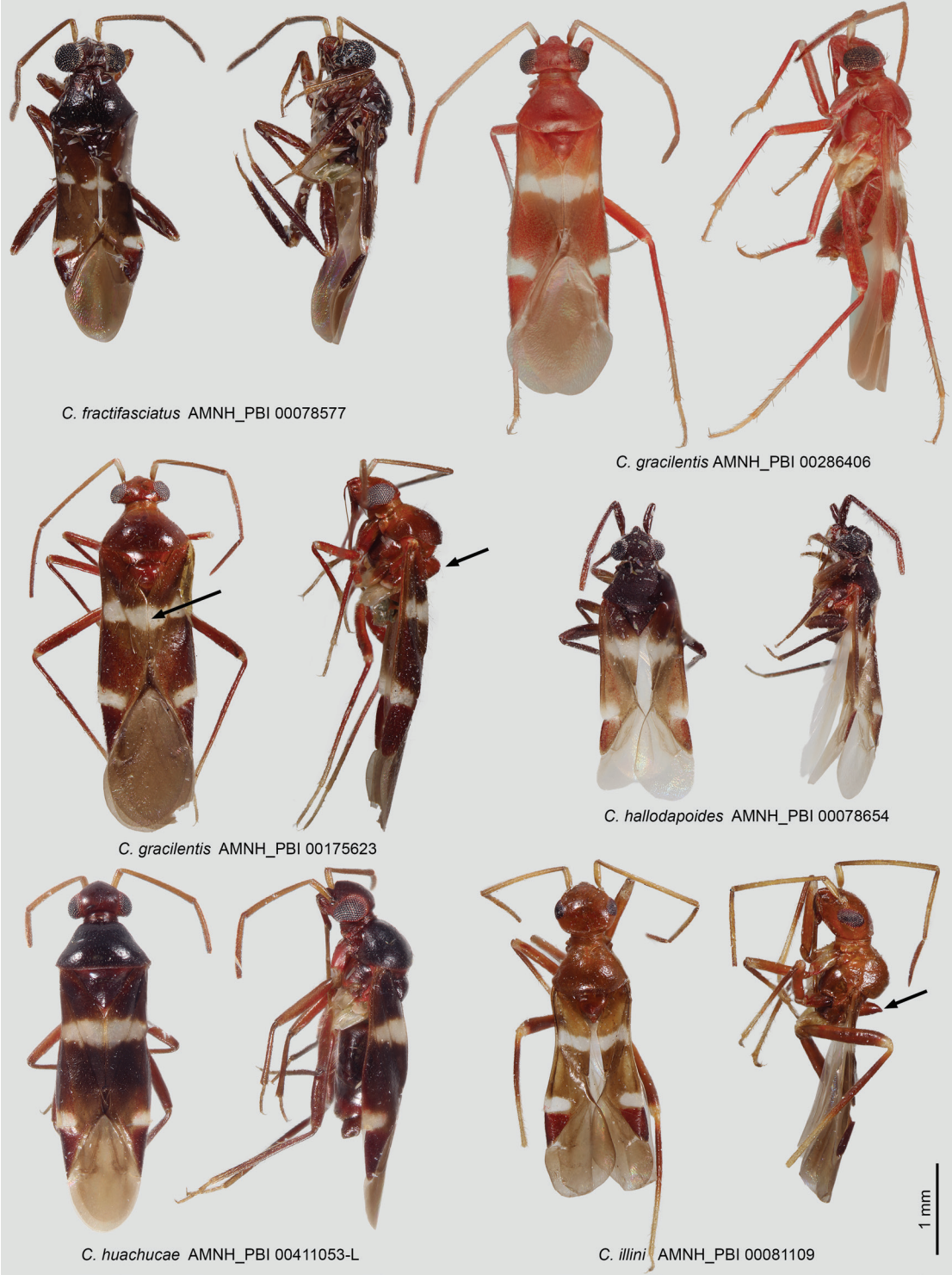


FIG. 2. Dorsal habitus and lateral view images of *Cyrtopeltocoris* spp., *C. fractifasciatus*–*C. illini*.

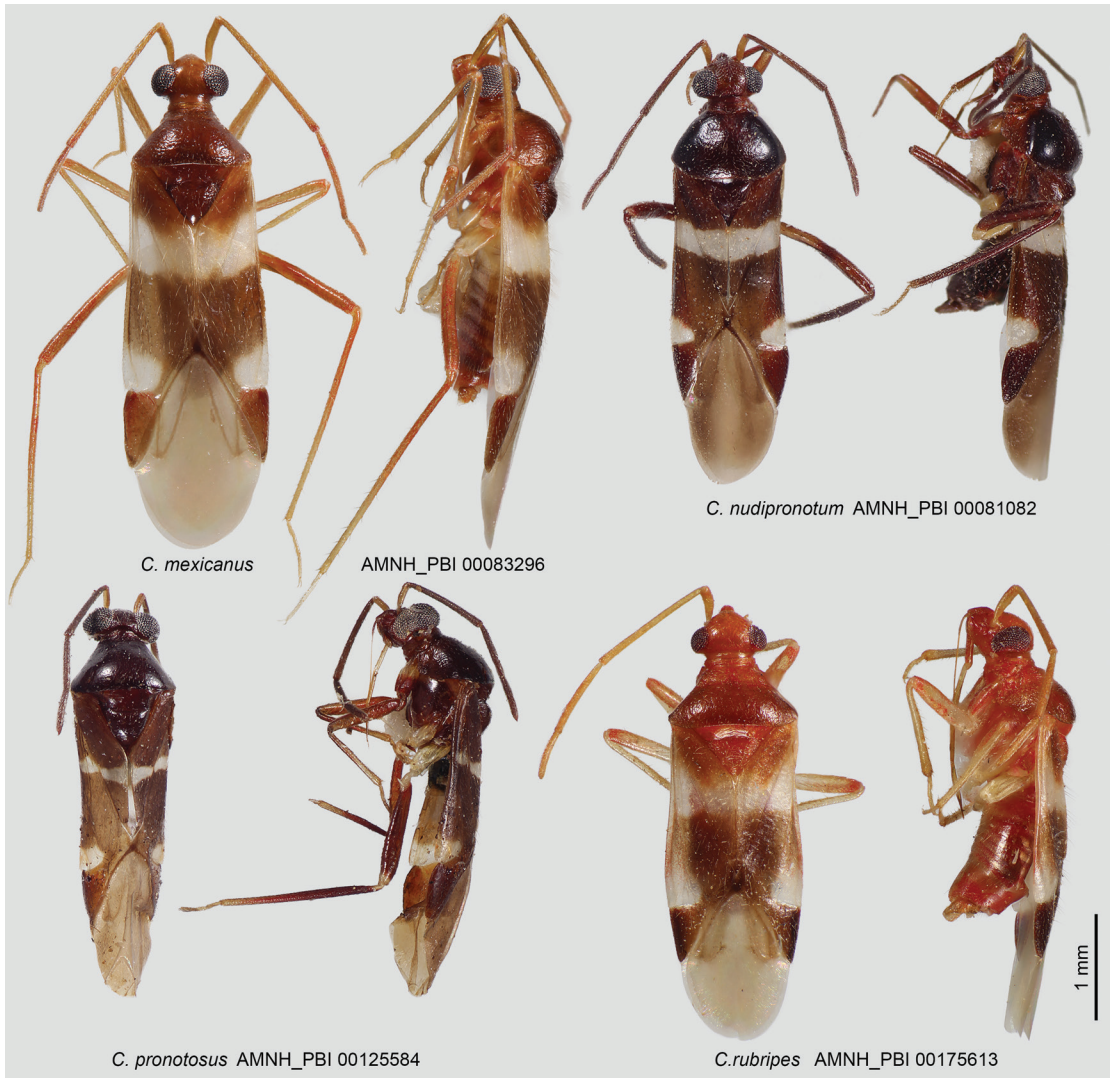


FIG. 3. Dorsal habitus and lateral view images of *Cyrtopeltocoris* spp., *C. mexicanus*–*C. rubripes*.

nounced spines, middle tibia of female with a comb of long erect setae on distal half; tarsomere III two-thirds length of tarsomeres I and II combined; parempodia setiform.

Other North American Phylinae with a flattened pronotal collar all belong to the Cremnorhinina (Menard et al., 2014; Schuh and Menard, 2013) and have large pulvilli, either adnate to entire ventral surface of claw (*Orectoderus* Uhler, *Teleorhinus* Uhler) or attached only at base and extending over length of claw (*Coquillettia* Uhler); endosoma moderately (*Coquillettia*) to strongly robust (*Orectoderus*, *Teleorhinus*) and heavily sclerotized.

REDESCRIPTION: *Male*: Total length 3.34–5.13. Coloration (figs. 1–3): Ranging from castaneous, including appendages, to reddish with nearly pale appendages; hemelytron with a more or less parallel sided, complete or nearly complete, white or pale contrasting transverse fascia on hemelytra

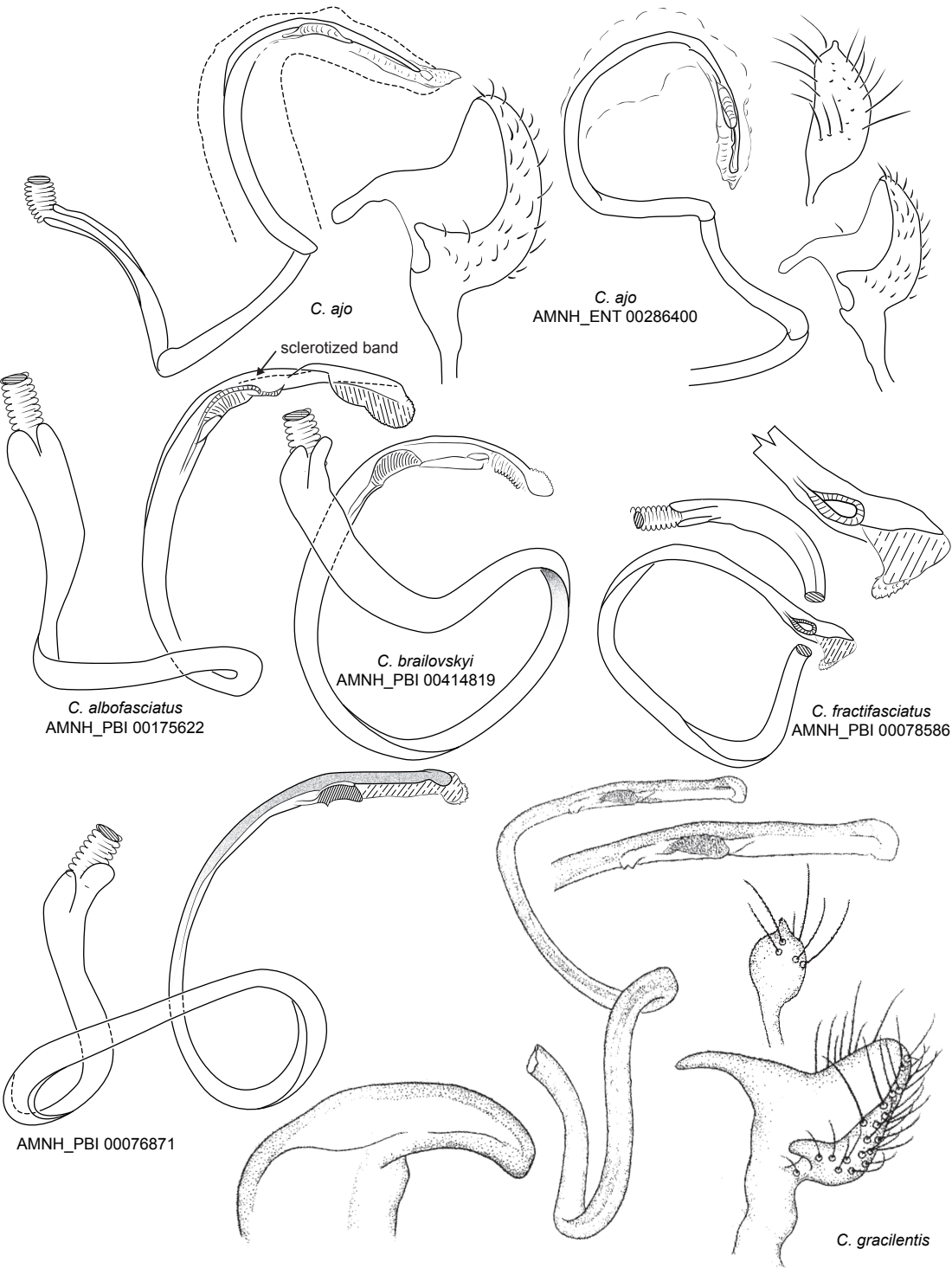


FIG. 4. Male genitalia of *Cyrtopeltocoris* spp., *C. ajo*–*C. gracilentis*.

at level of apex of scutellum. Surface and vestiture (figs. 1–3): Vestiture varying from short recumbent to long erect setae; setae always simple. Structure (figs. 1–3): Moderately to strongly elongate, more or less parallel sided; head varying from short in dorsal view to distinctly projecting anterior to eyes, with prominent clypeus; eyes varying from large and occupying nearly entire side of head to relatively small and weakly pedunculate in dorsal view; pronotum varying from straight sided to campanulate; anterior margin in the form of a flattened collar; posterior lobe ranging from nearly flat to greatly inflated and elevated; scutellum varying from nearly flat to strongly elevated and in the form of a conical spine; corium declivent laterally, costal margin of hemelytron varying from nearly straight to markedly sinuate, with a stridulitrum consisting of closely spaced vertical ridges for most of length and a plectrum consisting of irregular patches of tiny spicules on inner margin of hind femur; labium long and slender. Claws long, slender, gently curving; parempodia setiform; pulvilli minute. genitalia (figs. 4–5): Endosoma long, filamentous, secondary gonopore preapical; phallosome large, right angled, with an elongate apical portion (fig. 4); left paramere (fig. 4) in all species strongly elevated toward apex and of a form similar to that seen in apparently closely related *Hallodapini* from the Old World; right paramere short, laterally rounded, and apically acuminate (fig. 4).

Female: Coloration of body and appendages similar to male (fig. 1); eyes relatively smaller than in male (fig. 1); pronotum campanulate, collar not so broad and flat as in male; scutellum more strongly elevated than in male in known species; hemelytra truncate, angled from midline to costal margin, covering anterior one third of abdomen (figs. 1); stridulitrum on costal margin of abbreviated hemelytron and plectrum on inner side of hind femur similar to those found on brachypterous males of *C. ajo*. GENITALIA: Sclerotized rings heavily sclerotized; posterior wall simple; vestibular sclerites small.

DISCUSSION/DISTRIBUTIONAL PATTERNS: Like many genera of North American Phylinae, *Cyrtopeltocoris* is most speciose in the West/Southwest, in this case including substantial representation in Baja California, Mexico, with more limited diversity in the eastern United States (fig. 6). Two aspects of the distribution are novel, however. First, one species in the group is known from Cuba, a landmass which shows primarily Neotropical connections. For example, one recently documented example in the pachynomid genus *Aphelonotus* Uhler showed an apparent sister-species pair occurring in Cuba and Costa Rica (Schuh et al., 2015). Second, 10 species of *Cyrtopeltocoris* are known from Mexico, with four restricted to Baja California lying west of the San Andreas Fault, and only two are known from the eastern United States (fig. 6), possibly suggesting northward movement over evolutionary time and offering a potentially more southern geographic origin for the group than it possesses today.

We might also compare distributions seen in *Cyrtopeltocoris* and *Neocyrtopeltocoris* spp. with patterns seen in the analyses of Weirauch et al. (2017) for North American Miridae and plants. Miridae pattern 41 of those authors encompasses the distributions of *C. gracilentis*, *C. illini*, and *Neocyrtopeltocoris froeschneri*, an area comprising the southeastern quadrant of the United States. The remaining species of *Cyrtopeltocoris* (excepting *C. cubanus*) and *Neocyrtopeltocoris triangularis* occupy an area most strongly coterminous with area 5 of Weirauch et al. (2017), ranging broadly over the American Southwest and most of Mexico. Only the distribution of *N. trianguli-*

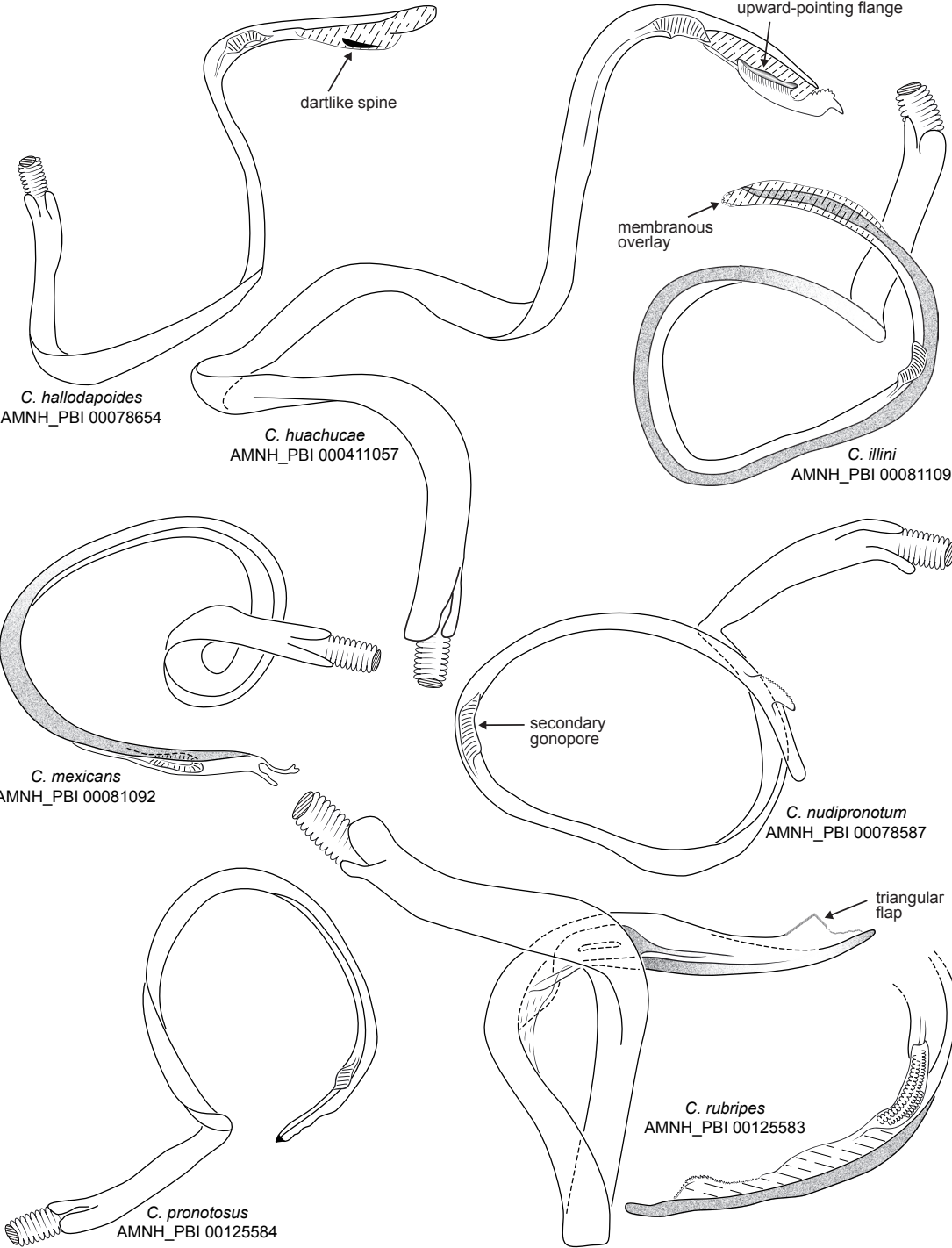


FIG. 5. Male genitalia of *Cyrtopeltocoris* spp., *C. hallodapoides*–*C. rubripes*.

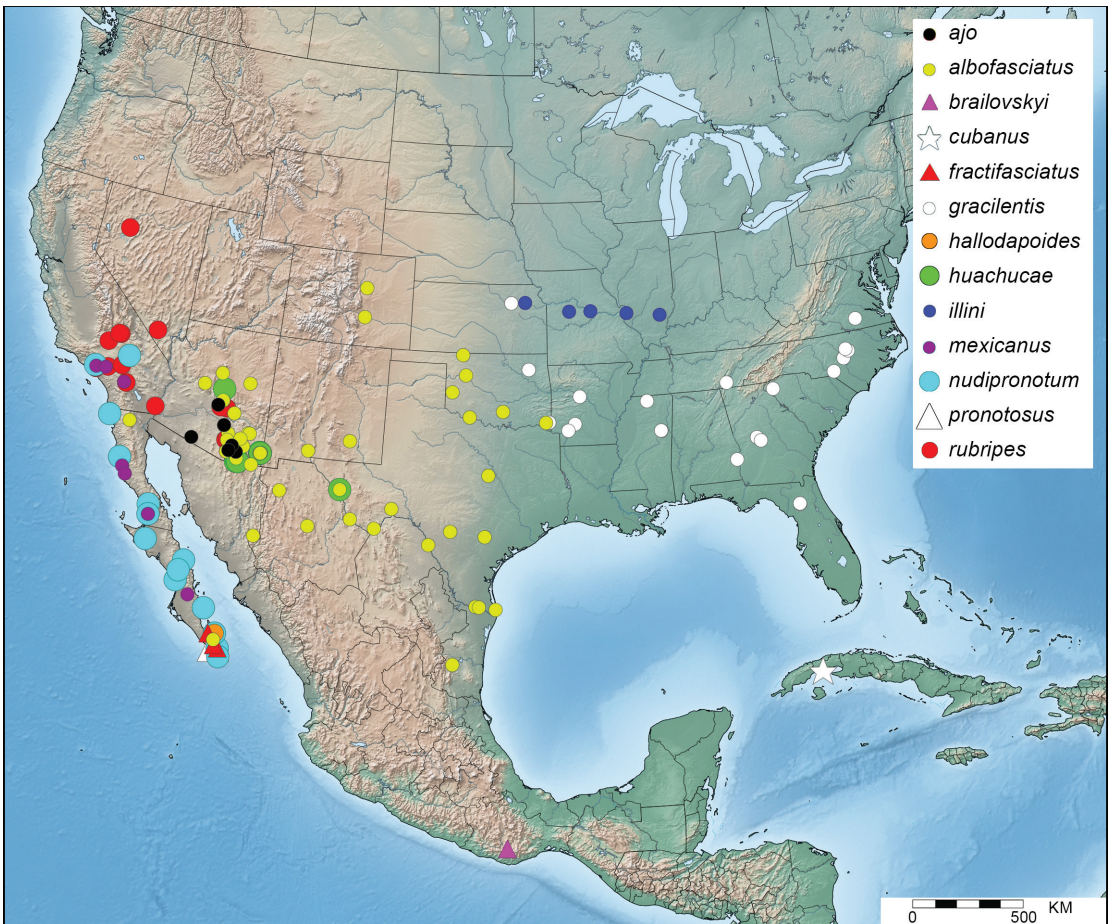


FIG. 6. Distributions of *Cyrtopeltocoris* spp.

laris falls outside this zone, ranging further north in the western plains almost to the Canadian border. No species are known to occur in both eastern and western North America.

Cyrtopeltocoris ajo Knight

Figures 1, 4, 6, table 1

Cyrtopeltocoris ajo Knight, 1968: 163 (original description); Henry and Wheeler, 1988: 455 (catalog); Schuh, 1995: 220 (catalog); Schuh, 2002–2013 (online catalog).

Phoradendrepulus myrmecomorphus Polhemus and Polhemus, 1985: 26 (original description); Henry and Wheeler, 1988: 442 (catalog); Schuh, 1995: 233 (catalog); Schuh, 2002–2013 (online catalog). New synonym.

DIAGNOSIS: Macropterous form recognized by the generic characters for males, including the triangular head, with the base of the clypeus lower than the frons forming a distinct notch;

the granulate eyes; quadrate pronotum, with middle third finely rugose and outer third smooth and shiny; and the enlarged elongate-oval right paramere.

Brachypterous males recognized by the notch between the clypeus and frons, the distinctive pronotal surface texture, and the male genitalia, particularly the relatively large right paramere when compared with other species. Brachypterous females can be identified by the head structures and pronotal surface texture as seen also in brachypterous males. The modified head, quadrate pronotum, abbreviated hemelytra, and basally constricted, rounded abdomen in brachypterous forms create a remarkably antlike habitus in both sexes.

REDESCRIPTION: *Macropterous holotype male*: Total length 3.32. **COLORATION** (fig. 1): Head yellowish to dark brown, eyes reddish brown; labial segment I and II reddish brown, segments III and IV pale yellowish brown; antennae missing; pronotum dark reddish brown; mesoscutum and scutellum dark reddish brown; scent-gland auricle yellowish brown, tinged with red; hemelytron dark brown, with a continuous, broad, transverse white band across corium and through middle of clavus, and a broad white patch anterior to cuneus, membrane translucent pale smoky brown; venter dark reddish brown; front coxa reddish brown, paler at base, meso- and metacoxae pale or whitish, remainder of legs missing. **SURFACE AND VESTITURE** (fig. 1): Head rugose with distinct transverse striations; middle half pronotum rugose, smooth but minutely punctate and shiny laterally; head, pronotum, and hemelytron shiny with scattered recumbent setae. **STRUCTURE** (fig. 1): Head triangular, with transverse notch formed by the lower base of clypeus meeting higher anterior margin of frons, eyes granulate; labium extending to abdominal segment IV; pronotum trapeziform, convex, anterior angles rounded, posterior angle angulate; scutellum distinctly conical; hemelytra subparallel, weakly constricted through middle. **GENITALIA** (fig. 4): Endosoma elongate, slender, apically acute, and coiled; secondary gonopore subapical; left paramere typically phyline with anterior process stout and posterior process more slender; right paramere relatively large, elongate oval.

Brachypterous male: Mean total length 2.50. **COLORATION** (fig. 1): Head dark brown to reddish; labium brown; pronotum dark brown to reddish brown; mesoscutum and scutellum dark brown to reddish brown; scent-gland auricle dark brown; hemelytron dark brown, corium (fused with clavus) with a pale or whitish band through outer half of middle, cuneus and membrane absent; antennal segments brown to reddish brown; venter dark brown to reddish brown; legs dark brown, except for pale or whites meso- and metacoxae and trochanters. **SURFACE AND VESTITURE** (fig. 1): Head and pronotum with a few scattered recumbent setae, intermixed with a few longer, erect setae on frons and base of vertex. **STRUCTURE** (fig. 1): Strongly antlike, head triangular, with a transverse notch formed by lower base of clypeus and higher anterior margin of frons, eyes granulate; pronotum quadrate, anterior angles rounded, posterior angles angulate, swollen but flattened dorsally, with middle third finely rugose and outer third smooth and shiny; scutellum conical; corium subparallel, concave through middle, elevated and rounded apically (and cupped beneath); labium extending to about abdominal segment III. **GENITALIA**: As in macropterous male.

Brachypterous female: Mean total length 2.91. Color, vestiture, and overall structure as in male (fig. 1).

DISTRIBUTION: Known from Cochise, Maricopa, Pima, and Pinal counties, Arizona.

DISCUSSION: We have studied the macropterous holotype male of *C. ajo*, which is in poor condition, with both antennae and all legs missing (fig. 1), and one other macropterous male taken more recently at lights. The structure of the notched head, texture of the pronotum (with the median third rugose and the outer third smooth and shiny), and the male genitalia are distinctive for this species.

Comparison of the brachypterous males and females (fig. 1) of the nominal taxon *Phoradendrepulus myrmecomorphus* (Polhemus and Polhemus, 1985) indicated they are structurally very similar to the brachypterous females (fig. 1) of *Cyrtopeltocoris albofasciatus*. The left and right parameres are similar to those of *Cyrtopeltocoris illini*, but the two nominal taxa are otherwise distinct, as, for example, in the structure of the scutellum. Comparison of *P. phoradendrepulus* specimens with the holotype of *C. ajo* shows a strong similarity in the shape of the head with a notch at the base of the clypeus, texture of the pronotum, and the structure of the male genitalia, especially the apical third of the endosoma and the enlarged right paramere. We therefore treat the two taxa as synonymous, with *P. myrmecomorphus* the junior name, new synonym. Based on the significant amount of material we have studied for this revision, only two macropterous males of this species have been found, indicating fully winged forms are rare.

The series of specimens serving as the holotype and paratypes of *P. myrmecomorphus* was taken on the *Phoradendron californicum* Nutt [Santalaceae] growing on *Prosopis velutina* Wootton [Fabaceae] (Polhemus and Polhemus, 1985), leading those authors to speculate that this myrmecomorphic bug was closely associated with mistletoe and, thus, their generic name *Phoradendrepulus*. They also noted that all the specimens were taken in the company of *Crematogaster* ants. All recent collections of this species are from *Acacia* and *Prosopis* without any *Phoradendron californicum* in the vicinity, clearly indicating that the original collections on mistletoe were only incidental. However, in all subsequent collections, there was an obvious presence of similar-sized and colored species of *Crematogaster*, suggesting an obligate association with formicids.

HOLOTYPE [macropterous] male of *Cyrtopeltocoris ajo* Knight: **USA: Arizona: Pima Co.:** The Alamo, Ajo Mountains, 32.06833°N 112.725°W, 698 m, 27 Apr 1939, A.A. Nichol (AMNH_ENT 00286400) (USNM).

HOLOTYPE [macropterous] male of *Phoradendrepulus myrmecomorphus* Polhemus and Polhemus: **USA: Arizona: Maricopa Co.:** Fort McDowell, 33.637°N 111.674°W, 439 m, 10 Aug 1982, J.T. Polhemus, *Phoradendron californicum* (Santalaceae) (AMNH_ENT 00286409) (USNM).

OTHER SPECIMENS EXAMINED: **USA: Arizona: Cochise Co.:** Whetstone Mts., 31.7797°N 110.3891°E, 19 Jul 2019, J.T. Botz, 1♂ (AMNH_PBI 00162274) *Prosopis velutina* (Fabaceae), 1♀ brachypterous (AMNH_PBI 00016227), 1♂ brachypterous (AMNH_PBI 00162273) (USNM); 19 Jul 2019, A.G. Wheeler and T.J. Henry, *Prosopis velutina* (Fabaceae), 1 nymph (AMNH_PBI 00162271) (USNM); 19

Sep 2019, J.T. Botz, *Isocoma tenuisecta* (Asteraceae), 1 ♂ brachypterous (AMNH_PBI 00162275) (USNM). **Pima Co.:** Davidson Canyon, 31.930N, 110.655W, 10 Oct. 2018, J.T. Botz, *Acacia constricta* Benth. (Fabaceae), 2 ♀ brachypterous (USNM). Lower Santa Rita Range, near Sahuarita, 31.79705°N 110.77413°W, 1463 m, 11 Apr 1989, T.J. Henry and A.G. Wheeler, Jr., *Prosopis* sp. (Fabaceae), 13 ♀ brachypterous (AMNH_PBI 00411060, AMNH_PBI 00411062–AMNH_PBI 00411073), 1; nymph (AMNH_PBI 00411061) (USNM). **Pinal Co.:** Tom Mix Monument, 32.821°N, 111.204°W, 25 Apr 2020, J.T. Botz, 1 ♂ macropterous (AMNH_PBI 00162285) (USNM).

Cyrtopeltocoris albofasciatus Reuter

Figures 1, 4, 6, table 1

Cyrtopeltocoris albofasciatus Reuter, 1876: 81 (original description); Hernández and Henry, 2010: 121 (photo).

Sericophanes transversus Knight, 1918: 82 (original description) (synonymized by Knight, 1927: 41).

Cyrtopeltocoris arizonae Knight, 1968: 163 (original description); Carvalho and Afonso, 1977: 9 (list).

New synonym.

Cyrtopeltocoris balli Knight, 1968: 164 (original description). New synonym.

Cyrtopeltocoris barberi Knight, 1968: 164 (original description). New synonym.

Cyrtopeltocoris argentinus Carvalho and Costa, 1995: 229 (original description). New synonym.

DIAGNOSIS: Recognized by the presence of short recumbent, appressed setae on the head and pronotum and long, erect setae on the scutellum, clavus, and corium, usually dark coloration, and hemelytron with distinct, slender, straight, transverse, ivory band, and head with a relatively narrow vertex (fig. 1, table 1). Similar to *C. huachucae* in coloration and general appearance and with a partially overlapping distribution, but differs by having a more narrow vertex, weakly swollen frons, the clavus and corium largely covered with very long erect setae rather than erect setae only at apex of clavus and corium, and endosoma ending in a broad membranous apex (fig. 4) with a unique sclerotized band distad of secondary gonopore, in contrast to that in *C. huachucae* (fig. 2); also similar in size and coloration to *C. gracilentis* (fig. 2), but scutellum more strongly elevated in that species, the claval/corial band is narrowly disjunct at the radial vein, the ostiolar auricle white (rather than reddish brown), and the distributions essentially nonoverlapping (fig. 6), with *C. albofasciatus* in western North America and *C. gracilentis* in the East; the latter lacking the sclerotized band distad of the secondary gonopore (fig. 4).

REDESCRIPTION: *Male:* Mean total length 3.65. Coloration (fig. 1): Head brown; labium brown; pronotum orange-brown to brown; mesoscutum and scutellum reddish brown, or dark orange; scent-gland auricle ivory, brown apically; clavus, corium, and embolium brown or orange brown basally, ivory medially, brown apically; corium with transverse ivory band almost straight, or just slightly swollen medially (fig. 1); lateral ivory spot anterior to cuneus almost square or roundish (fig. 1); cuneus brownish red; membrane fuscous; antennal segments brown or slightly yellowish, with first segment yellowish brown (fig. 1); venter brown; mesepisternum red-brown; procoxa and trochanter of front legs brown, meso- and metacoxae ivory with trochanters ivory and brown apically; femora and tibiae brown; tarsi yellowish (fig. 1). Surface

TABLE 1. Measurements of *Cyrtopeltocoris* and *Neocyrtopeltocoris*.

		Length							Width			
		Body	Cun-Clyp	Head	Prono	Scut	Cun	Ant-Seg2	Head	Prono	Scut	IntOcDi
<i>Cyrtopeltocoris</i>												
<i>C. ajo</i>												
♂ macropters (N = 2)	Mean	3.32	2.36	0.49	0.70	0.43			0.69	1.05	0.50	0.34
	SD	0.02	0.02	0.01	0.01	0.01			0.02	0.01	0.02	0.00
	Range	0.03	0.03	0.02	0.01	0.01			0.03	0.02	0.03	0.00
	Min	3.30	2.34	0.48	0.69	0.42			0.67	1.04	0.48	0.34
	Max	3.33	2.37	0.50	0.70	0.43			0.70	1.06	0.51	0.34
♀ brachypters (N = 5)	Mean	2.91		0.50	0.65	0.34			0.75	0.74	0.41	0.41
	SD	0.05		0.01	0.02	0.03			0.02	0.02	0.03	0.01
	Range	0.38		0.03	0.05	0.08			0.06	0.05	0.06	0.03
	Min	2.72		0.48	0.62	0.30			0.72	0.72	0.37	0.40
	Max	3.10		0.51	0.67	0.38			0.78	0.77	0.43	0.43
<i>C. albofasciatus</i>												
♂ (N = 8)	Mean	3.65	2.52	0.38	0.60	0.36	0.49	0.74	1.06	0.45	0.33	0.96
	SD	0.15	0.08	0.04	0.03	0.02	0.05	0.05	0.05	0.03	0.03	0.08
	Range	0.47	0.21	0.11	0.12	0.05	0.14	0.16	0.14	0.11	0.09	0.22
	Min	3.43	2.43	0.33	0.55	0.34	0.41	0.69	0.98	0.38	0.29	0.86
	Max	3.90	2.64	0.43	0.67	0.39	0.55	0.85	1.12	0.49	0.37	1.08
<i>C. brailovskyi</i>												
♂ (N = 1)		4.11	2.73	0.41	0.59	0.39	0.63	0.72	1.15	0.42	0.30	1.13
<i>C. fractifasciatus</i>												
♂ (N = 5)	Mean	3.46	2.38	0.28	0.68	0.39	0.47	0.79	0.97	0.42	0.23	0.82
	SD	0.14	0.10	0.01	0.02	0.02	0.03	0.02	0.01	0.02	0.02	0.06
	Range	0.35	0.24	0.03	0.06	0.06	0.09	0.07	0.04	0.05	0.04	0.16
	Min	3.37	2.31	0.27	0.65	0.37	0.43	0.76	0.95	0.40	0.21	0.78
	Max	3.71	2.55	0.30	0.71	0.43	0.53	0.82	0.99	0.45	0.25	0.93
<i>C. gracilentis</i>												
♂ (N = 6)	Mean	3.67	2.47	0.31	0.59	0.42	0.55	0.74	0.99	0.42	0.30	1.02
	SD	0.27	0.13	0.04	0.05	0.04	0.04	0.10	0.08	0.03	0.03	0.11
	Range	0.65	0.35	0.11	0.14	0.09	0.09	0.26	0.24	0.11	0.08	0.25
	Min	3.34	2.27	0.24	0.49	0.37	0.51	0.62	0.86	0.37	0.27	0.92
	Max	3.99	2.62	0.35	0.63	0.46	0.60	0.88	1.11	0.47	0.34	1.17
<i>C. hallodapoides</i>												
♂ (N = 1)		3.06	2.08	0.36	0.44	0.31	0.43	0.62	0.84	0.36	0.24	0.90
<i>C. huachucae</i>												
♂ (N = 5)	Mean	3.78	2.66	0.43	0.62	0.40	0.54	0.71	1.06	0.45	0.41	0.92

TABLE 1 *continued*

		Length							Width			
		Body	Cun- Clyp	Head	Prono	Scut	Cun	Ant- Seg2	Head	Prono	Scut	IntOcDi
	SD	0.15	0.10	0.04	0.02	0.03	0.03	0.03	0.01	0.01	0.02	0.03
	Range	0.30	0.23	0.08	0.06	0.09	0.07	0.06	0.03	0.01	0.04	0.08
	Min	3.65	2.56	0.40	0.60	0.36	0.51	0.69	1.05	0.44	0.40	0.87
	Max	3.95	2.78	0.47	0.65	0.44	0.58	0.75	1.08	0.45	0.44	0.95
<i>C. illini</i>												
♂ (N = 3)	Mean	3.62	2.66	0.54	0.65	0.36	0.46	0.77	0.92	0.35	0.50	1.37
	SD	0.22	0.04	0.07	0.03	0.02	0.01	0.02	0.02	0.02	0.02	0.03
	Range	0.40	0.08	0.13	0.07	0.03	0.02	0.04	0.03	0.04	0.04	0.06
	Min	3.38	2.62	0.47	0.62	0.35	0.45	0.74	0.90	0.34	0.48	1.34
	Max	3.78	2.70	0.60	0.69	0.38	0.47	0.78	0.93	0.38	0.52	1.39
<i>C. mexicanus</i>												
♂ (N = 5)	Mean	4.74	3.18	0.47	0.60	0.47	0.76	0.77	1.16	0.54	0.31	1.45
	SD	0.50	0.31	0.05	0.03	0.04	0.14	0.07	0.07	0.06	0.05	0.13
	Range	1.25	0.74	0.13	0.09	0.11	0.35	0.19	0.18	0.14	0.12	0.30
	Min	3.87	2.65	0.39	0.57	0.40	0.54	0.65	1.05	0.44	0.27	1.25
	Max	5.13	3.39	0.52	0.66	0.51	0.88	0.84	1.22	0.59	0.38	1.55
<i>C. nudipronotum</i>												
♂ (N = 5)	Mean	3.92	2.70	0.39	0.72	0.41	0.55	0.76	1.12	0.47	0.28	0.92
	SD	0.33	0.21	0.04	0.05	0.04	0.06	0.03	0.09	0.04	0.03	0.07
	Range	0.91	0.58	0.12	0.12	0.12	0.13	0.07	0.20	0.11	0.07	0.19
	Min	3.45	2.35	0.33	0.65	0.35	0.51	0.72	0.98	0.41	0.23	0.80
	Max	4.36	2.93	0.45	0.77	0.47	0.64	0.79	1.18	0.52	0.30	0.99
<i>C. pronotosus</i>												
♂ (N = 1)		3.95	2.59	0.23	0.54	0.49	0.60	0.80	1.08	0.50	0.21	0.94
<i>C. rubripes</i>												
♂ (N = 5)	Mean	4.15	2.85	0.51	0.65	0.42	0.58	0.70	1.21	0.53	0.37	1.16
	SD	0.25	0.16	0.02	0.03	0.02	0.03	0.03	0.06	0.03	0.02	0.10
	Range	0.57	0.38	0.07	0.08	0.06	0.07	0.07	0.15	0.07	0.04	0.26
	Min	3.81	2.62	0.47	0.62	0.38	0.55	0.68	1.11	0.49	0.36	1.02
	Max	4.38	3.00	0.54	0.70	0.44	0.62	0.75	1.25	0.56	0.39	1.28
<i>Neocyrtopeltocoris</i>												
<i>N. froeschneri</i>												
♂ (N = 1)		2.97	2.31	0.41	0.55	0.33	0.38	0.67	0.93	0.40	0.32	0.99
<i>N. triangularis</i>												
♂ (N = 8)	Mean	3.66	2.58	0.44	0.53	0.36	0.44	0.69	0.99	0.44	0.29	1.07
	SD	0.28	0.16	0.04	0.03	0.02	0.07	0.02	0.06	0.03	0.02	0.10
	Range	0.82	0.39	0.14	0.08	0.06	0.22	0.06	0.17	0.08	0.05	0.26
	Min	3.22	2.38	0.36	0.51	0.33	0.33	0.66	0.93	0.41	0.27	0.97

and vestiture (fig. 1): Vertex and pronotum bearing recumbent setae; scutellum and hemelytron with distinct long erect setae. Structure (fig. 1): Slender; pronotum campanulate, slightly swollen basally (fig. 1); scutellum moderately swollen; corium with lateral margin slightly convex basally at level of brown coloration; labium reaching third abdominal segment. genitalia (fig. 4): Endosoma coiled as in figure 4, slender, ending in membranous apex; sclerotized band distad of secondary gonopore (fig. 4); phallosome elongate, just slightly curved; left paramere with anterior process stout and short, posterior process distinctly curved downward; right paramere short and roundish.

Female (fig. 1): Coloration of body and appendages similar to male. Eyes relatively smaller than in male. Pronotum campanulate, pronotal collar not so broad and flat as in male. Pronotum strongly campanulate; scutellum more strongly elevated than male in known species. Hemelytron truncate, angled from midline to costal margin, covering anterior one-third of abdomen. GENITALIA: Ring glands large and sclerotized; posterior wall simple; vestibular sclerites small.

DISTRIBUTION (fig. 6): Distributed broadly across the American Southwest.

DISCUSSION: This is one of the most common species in collections. The sclerotized bar distal to the secondary gonopore is distinctive within the genus and has facilitated the process of identifying junior synonyms of this species.

Among species described by Reuter from North America, including *Cyrtopeltocoris albofasciatus*, some specimens were labeled as "Texas" or "Texas, Belfrage." These specimens were presumably all collected by Gustave Wilhelm Belfrage, a Swede, who immigrated to the United States and settled in Bosque County, central Texas, where he lived in the settlements of Clifton, and ultimately the primarily Norwegian community of Norse, where he spent the rest of his life (Geiser, 1948). We here designate as lectotype a specimen deposited in the U.S. National Museum of Natural History, Smithsonian Institution (USNM), for *C. albofasciatus* from among the specimens that may have been examined by Reuter. The label data read as "Texas, Belfrage," which corresponds to the data recorded in the original description. Although Reuter did not indicate how many specimens he studied, we have found two specimens in the USNM collection that bear identification labels that may have been written by Reuter, but the second specimen of the two is labeled only "Texas," rather than "Texas, Belfrage" as in the original description. A number of other specimens bear no identification labels, although they all appear to be Belfrage material. We also found four specimens labeled as only "Texas" in Swedish Museum of Natural History (SMNH), one of which is labeled in Reuter's hand as "*Cyrtopeltocoris albofasciatus* Reut. Type" offering evidence that they belonged to the original series. Consequently, we treat all the "Texas" specimens in both the SMNH and the USNM as paralectotypes.

Our treatment of *C. transversus* (Knight), *C. balli* Knight, and *C. barberi* Knight as junior synonyms of *albofasciatus* is based on the dissection of numerous specimens, including paratypes of *C. transversus* and the holotypes of *C. balli* and *C. barberi*. The synonymy of *C. arizonae* Knight is based on examination of the holotype and a single male paratype from a locality different than that of the holotype.

The holotype and only known specimen of *C. argentinus*, described from Meloidie, Misio-
nes, Argentina [H.L. Parker col., 1942] is lost. It was not returned to the La Plata Museum as
indicated in the original description and apparently was destroyed in the 2018 Museu Nacional
(Rio de Janeiro) fire. Based on the original description, the distinctive transverse band across
the corium and clavus [not touching the lateral margin of the corium], the white marking
anterior to the cuneus, and the figure of the endosoma, it is our opinion that this species is
conspecific with the North American *C. albofasciatus*. Rather than explain its occurrence in
Argentina as an extremely disjunct distribution, we believe this is a case of mislabeling a speci-
men from Mexico or the southwestern United States.

LECTOTYPE male [here designated] of *Cyrtopeltocoris albofasciatus*: **USA: Texas: [Bosque Co.:]** Texas [Norse, 31.75°N 97.66667°W, 262 m, between 1870 and 1880], Belfrage Collection (AMNH_PBI 00410972) (USNM).

HOLOTYPE male of *Cyrtopeltocoris arizonae* Knight: **USA: Arizona: Yavapai Co.:** Glen Oak, 34.44308°N 112.5485°W, 1675 m, 19 Jul 1929, E.D. Ball (AMNH_ENT 00286401) (USNM).

HOLOTYPE male of *Cyrtopeltocoris balli* Knight: **USA: Colorado: Pueblo Co.:** Pueblo, 38.25444°N 104.60861°W, 1524 m, 15 Jun 1900, E.D. Ball (AMNH_ENT 00286402) (USNM).

HOLOTYPE male of *Cyrtopeltocoris barberi* Knight: **USA: Arizona: Cochise Co.:** Huachuca Mountains, VII 23, H.G. Barber (AMNH_ENT 00286403) (USNM).

HOLOTYPE male of *Sericophanes transversus* Knight: **USA: Texas: Karnes Co.:** Gillette (CUIC) [specimen not examined; synonymy based on examination of paratypes in USNM].

PARALECTOTYPES [here designated] of *Cyrtopeltocoris albofasciatus*: **Texas: Bosque Co.:** Texas [Norse], 31.75°N 97.66667°W, 262 m, between 1870 and 1880, [Belfrage Collection], 8♂ (AMNH_PBI 00410965–AMNH_PBI 00410971, AMNH_PBI 00410973) (USNM), 4♂ (SMNH) with labels reading “Texas.”

PARATYPES OF JUNIOR SYNONYMS: *Cyrtopeltocoris arizonae* Knight: **USA: Arizona: Graham Co.:** Bonita, Post Creek Canyon, 32.6481°N 109.92617°W, 1692 m, 16 Jul 1917, H.H. Knight, 1♂ (AMNH_PBI 00404967) (CNC). *Cyrtopeltocoris balli* Knight: **USA: Colorado: Pueblo Co.:** Pueblo, 38.25444°N 104.60861°W, 1524 m, 15 Jun 1900, unknown collector, 1♂ (AMNH_PBI 00404965), 1♀ (AMNH_PBI 00404966) (CNC), 3♂ (AMNH_PBI 00411074–AMNH_PBI 00411076) (USNM). *Sericophanes transversus* Knight: **USA: Arizona: Cochise Co.:** Texas Pass (Summit), 32.06314°N 110.07479°W, 1523 m, 20 Jul 1917, H.H. Knight, 3♂ (AMNH_PBI 00411036–AMNH_PBI 00411038) (USNM). **New Mexico: Dona Ana Co.:** Mesilla Park, 32.27°N 106.80028°W, 12 Jul 1917, H.H. Knight, 13♂ (AMNH_PBI 00411024–AMNH_PBI 00411035, AMNH_PBI 00411039) (USNM). **Texas: Karnes Co.:** Gillett, 29.1344°N 97.7875°W, 30 m, 26 Jun 1917, H.H. Knight, 2♂ (AMNH_PBI 00404963, AMNH_PBI 00404964) (CNC), 1♀ [allotype] (AMNH_PBI 00411041), 28♂ (AMNH_PBI 00410984–AMNH_PBI 00411011), 1♂ (AMNH_PBI 00410975) (USNM). **Uvalde Co.:** Sabinal, 29.31722°N 99.46611°W, 02 Jul 1917, H.H. Knight, 12♂ (AMNH_PBI 00411012–AMNH_PBI 00411023) (USNM).

OTHER SPECIMENS EXAMINED: **MEXICO: Baja California Norte:** 14 mi N of Laguna Hanson, Sierra Juarez, 32.22856°N 115.9442°W, 1603 m, 13 Jul 1955, J.R. Slevin, 1♂ (AMNH_PBI 00411091) (USNM).

Baja California Sur: El Triunfo, S of La Paz, 23.80311°N 110.01474°W, 491 m, 03 Oct 1981, F. Andrews & D. Faulkner, *Parthenium hysterophorus* L. (Asteraceae), 1♂ (AMNH_PBI 00074425) (SDNH). **Chihuahua:** 42 mi N of Chihuahua in canyon, 3 mi W of Parrita, 29.07957°N 106.39091°W, 1658 m, 02 Jun 1981, J.K. Liebherr, 1♂ (AMNH_PBI 00081106) (UCB). San Jose, 5 mi NW of Nuevo Casas Grande, 30.43367°N 107.97193°W, 1524 m, 01 Oct 1988, M.D. Schwartz, *Grindelia* sp. (Asteraceae), det. A. Tiehm (NYBG), 2♂ (AMNH_PBI 00175619, AMNH_PBI 00175624) (AMNH). **Sonora:** Yécora, 28.37128°N 108.91893°W, 1539 m, 20 May 1961–22 May 1961, Gibson, Howden, and Martin, 1♂ (AMNH_PBI 00404961) (CNC). **Tamaulipas:** Ciudad Victoria, 23.73333°N 99.13333°W, 19 Mar 1986, Wharton and Woolley, 1♂ (AMNH_PBI 00411092) (USNM). **USA: Arizona: Cochise Co.:** 5 mi W of Portal, Southwestern Research Station (SWRS), Chiricahua Mountains, 31.8825°N 109.206°W, 1646 m, 05 Aug 1958, R.O. Schuster, 1♂ (AMNH_PBI 00086778) (UCD). Chiricahua Mountains, Cave Creek Canyon, 31.8962°N 109.16367°W, 1646 m, 24 Jun 1968, Vincent D. Roth, 1♂ (SWRS); 24 Jun 1968, Vincent D. Roth, 1♂ (AMNH_PBI 00392975) (AMNH). Chiricahua Mountains, Hidden Terrace, 4.5 mi SW of Portal, 31.8676°N 109.19499°W, 1646 m, 21 Aug 1982–25 Aug 1982, M.A. Cazier, 2♂ (AMNH_PBI 00175605, AMNH_PBI 00175606) (AMNH); 11 Sep 1982–15 Sep 1982, M.A. Cazier, 2♂ (AMNH_PBI 00175607, AMNH_PBI 00175608) (AMNH). Douglas, 31.34444°N 109.54472°W, 25 Aug 1968, unknown collector, 1♂ (AMNH_PBI 00392976) (AMNH), 1♂ (SWRS). Huachuca Mountains, 5354 Ash Canyon Road, 0.5 mi W of Hwy 92, 31.38194°N 110.22444°W, 1554 m, 18 Jun 1992, N. McFarland, 1♂ (AMNH_PBI 00411043) (USNM). Stewart Campground (W of Portal), 31.88611°N 109.17138°W, 1571 m, 25 Jul 1971, J. Doyen, 1♂ (AMNH_PBI 00081105) (UCB). **Coconino Co.:** Oak Creek Canyon at Pine Flats campground, T19N R6E Sec 22, 35.01178°N 111.73762°W, 1676 m, 16 Jul 1981, Thomas, Burne, 1♂ (UAZ). **Gila Co.:** Globe, 33.39422°N 110.78649°W, 15 Aug 1933, Parker, 1♂ (AMNH_PBI 00078652) (CAS). **Graham Co.:** Pinaleno Mountains, Stockton Pass, 32.64083°N 109.84306°W, 1631 m, 01 Jun 1983–02 Jun 1983, R.T. Schuh, G.M. Stonedahl, 1♂ (AMNH_PBI 00175622), 2♂ (AMNH_PBI 00175609, AMNH_PBI 00175610) (AMNH). **Maricopa Co.:** E of Sunflower [CL 1634], 33.85356°N 111.44581°W, 1035 m, 10 Aug 1982, J.T. Polhemus, 2♂ (AMNH_PBI 00068177, AMNH_PBI 00068178) (JTP). Sunflower, 33.8642°N 111.46763°W, 10 Aug 1982, J.T. Polhemus, 1♂ (AMNH_PBI 00068179) (JTP). **Navajo Co.:** 10 mi W of Woodruff, 34.76667°N 110.21667°W, 1631 m, 20 Apr 1971, J. May, 2♂ (AMNH_PBI 00186373, AMNH_PBI 00186381) (USNM). **Pima Co.:** Santa Catalina Mountains, Molino Basin, 32.5°N 110.92056°W, 11 Jun 1968, C.D. MacNeill & G.F. MacNeill, 1♂ (AMNH_PBI 00078655) (CAS). Santa Catalina Mountains, Sabino Basin, 32.36666°N 110.26833°W, 08 Jul 1916–20 Jul 1916, unknown collector, 1♂ (AMNH_PBI 00175618) (AMNH). Santa Rita Mountains, Madera Canyon, 31.74251°N 110.88533°W, 1341 m, 25 May 1982, C.N. McKinnon, 1♂ (AMNH_PBI 00068171) (JTP). Tucson, 32.22167°N 110.92583°W, 01 Aug 1938, H.G. Johnston, 1♂ (AMNH_PBI 00410977) (USNM). **Santa Cruz Co.:** Madera Canyon, 31.72555°N 110.88027°W, 02 Oct 1963, V.L. Vesterby, 1♂ (AMNH_PBI 00086779) (UCD). **Colorado: Elbert Co.:** 7 mi E of Parker, 39.51501°N 104.64124°W, 1876 m, 08 Aug 1983, D.A. and J.T. Polhemus, 17♂ (AMNH_PBI 00068155–AMNH_PBI 00068170, AMNH_PBI 00068180) (JTP). **Pueblo Co.:** Pueblo, 38.25444°N 104.60861°W, 1524 m, 15 Jun 1900, unknown collector, 1♂ (AMNH_PBI 00175630) (AMNH); 15 Jun 1900, E.D. Ball, 1;u (CSUC_TCN 00009755) (CSUC). **New Mexico: Eddy Co.:** Site 7, Eddy County, 32.875°N 104.75°W, 25 Sep 1979, R.R. Murray and J.C. Schaffner, 1♂ (AMNH_PBI 00410976) (USNM). **Oklahoma: Beckham Co.:** Sayre, 35.28333°N 99.63333°W, 550 m, 06 Jun 1937, Standish-Kaiser, 1♂ (AMNH_PBI 00410955) (USNM). **Dewey Co.:** Taloga, 36.03333°N 98.95°W, 520 m, 06 Jun 1937, Standish-Kaiser, 1♂ (AMNH_PBI 00410956) (USNM). **McCurtain Co.:** Broken Bow, 34.02371°N 94.73472°W, 138 m, 13 Jun 1939, D.C. Arnold, 2♂ (AMNH_PBI 00086778) (UCD).

PBI 00411042, AMNH_PBI 00410960) (USNM). **Murray Co.:** Sulphur, 34.5°N 96.96667°W, 307 m, 14 Jul 1937, Standish-Kaiser, 1 ♂ (AMNH_PBI 00410959) (USNM). **Tillman Co.:** Grandfield, 34.23067°N 98.68742°W, 05 Jul 1937, Standish-Kaiser, 1 ♂ (AMNH_PBI 00410958) (USNM). **Woodward Co.:** Alabaster Caverns State Park, 36.90194°N 99.14555°W, 570 m, 08 May 1974, G.F. and S. Hevel, 3 ♂ (AMNH_PBI 00271775, AMNH_PBI 00271776, AMNH_PBI 00271778) (USNM). **Texas: Brewster Co.:** Big Bend National Park, nr Nugent Mountain, 29.25356°N 103.17138°W, 1049 m, 08 Oct 1966–09 Oct 1966, unknown collector, 5 ♂ (AMNH_PBI 00186376–AMNH_PBI 00186379, AMNH_PBI 00186382) (USNM). **Cameron Co.:** Port Isabel, 26.0736°N 97.213°W, VIII-5, unknown collector, 1 ♂ (AMNH_PBI 00410974) (USNM). **Hidalgo Co.:** San Juan, 26.18508°N 98.15214°W, 33 m, 28 Jun 1938, L.W. Hepner, 1 ♂ (AMNH_PBI 00391389) (KU). Weslaco, 26.15947°N 97.99052°W, 23 m, 15 Jun 1931, S.W. Clark, 1 ♂ (AMNH_PBI 00068184) (JTP). **Hudspeth Co.:** 0.5 mi E of Indio Mountain Reserve Station, 30.77333°N 105.01333°W, 1250 m, 12 Apr 2002, Diaz and Gillogly, 1 ♂ (AMNH_PBI 00391889) (TAMU). **Maverick Co.:** Eagle Pass, 28.70889°N 100.499°W, 12 Jul 1933, unknown collector, 1 ♂ (AMNH_PBI 00411094) (USNM). **Presidio Co.:** Presidio, 29.56056°N 104.37167°W, 788 m, 02 Apr 1954, unknown collector, 1 ♂ (AMNH_PBI 00410978) (USNM); 19 Apr 1955, J.H. Russell, 3 ♂ (AMNH_PBI 00410979–AMNH_PBI 00410981) (USNM); 16 May 1955, J.H. Russell, 2 ♂ (AMNH_PBI 00410982, AMNH_PBI 00410983) (USNM). **Terrell Co.:** Sanderson, 30.1422°N 102.3936°W, 849 m, 27 Apr 1959, Howden and Becker, 1 ♂ (AMNH_PBI 00404987) (CNC).

Cyrtopeltocoris brailovskyi, new species

Figures 1, 4, 6, table 1

DIAGNOSIS: Most similar in appearance to *C. hallodapoides*, based on attributes also seen in many *Hallodapus* spp., including the matte surface texture and weakly elevated pronotum, unlike other species placed in *Cyrtopeltocoris*, most of which have a mostly highly polished and moderately to strongly convex pronotum. Apex of the endosoma superficially similar in *C. brailovskyi* and *C. hallodapoides* but with significant differences in detail, as seen in figures 1 and 2.

DESCRIPTION: Male: Total length 4.11. Coloration (fig. 1): Head dark reddish brown; antennae dark reddish brown; labium brown; pronotum dark reddish brown; mesoscutum and scutellum dark reddish brown; scent-gland auricle brown; clavus orange brown basally, ivory medially and brown apically; corium and embolium brown apically and basally, ivory medially; transverse ivory band on corium and clavus well demarcated and complete except for costal vein, weakly offset posteriorly at claval suture; corium with a quadrate ivory patch apically at cuneus; cuneus reddish; membrane fuscous; venter brown; mesepisternum dark reddish brown; procoxae dark reddish brown, mesocoxa and metacoxae dark reddish brown, trochanters ivory; femora and tibiae dark reddish brown; tarsi brown (fig. 1). Surface and vestiture (fig. 1): Head, pronotum, and scutellum dull, distinctly granular; vertex, pronotum, and scutellum with short recumbent setae; corium with recumbent and long, erect, simple setae (fig. 1); antennae with short recumbent setae (fig. 1). Structure: Elongate, parallel sided; pronotum trapezoidal, posterior lobe moderately elevated, weakly tumid (fig. 1); scutellum not swollen or elevated; corium with lateral nearly straight; labium reaching onto abdominal sternum 3. genitalia (fig. 4): Endosoma moder-

ately long, forming a complete coil; apex largely membranous with a wrinkled ventral surface and a finely serrate apical margin (fig. 4); phallotheca and parameres as in generic description.

ETYMOLOGY: Named for the collector, Harry Brailovsky, in recognition of his seminal contributions to heteropterology in Mexico.

DISTRIBUTION (fig. 6): Known from Oaxaca, Mexico.

DISCUSSION: This is the only species of *Cyrtopeltocoris* known from mainland southern Mexico. As noted in the diagnosis, it shares several aspects of morphology with *C. hallodapoides* from Baja California, including the dull granular texture of the head, pronotum, and scutellum, the somewhat flattened (as opposed to tumid) pronotum, and the structure of the apical portion of the endosoma.

HOLOTYPE male: **MEXICO: Oaxaca:** Tamazulapan, 20 Oct 1978, H. Brailovsky (AMNH_PBI 00414819) (UNAM).

Cyrtopeltocoris cubanus Poppius

Figures 1, 6

Cyrtopeltocoris cubanus Poppius, 1914: 257 (original description); Hernández and Stonedahl, 1997: 23 (list); Hernández and Henry, 2010: 121 (diagnosis).

DIAGNOSIS: Recognized by the disjunct transverse white band on the clavus and corium (fig. 1), with corial portion narrowly disjunct and set forward at claval suture; the large quadrate white mark at the apex of the corium; the high conical scutellum nearing the height of the pronotum in lateral view, the reddish-brown ostiolar area, and the uniformly brown middle coxa. Head, pronotum, left hemelytron, abdomen, and most legs missing in holotype, the only known specimen. Most similar to *C. gracilentis* (fig. 2) in having a distinctly conical scutellum, but the latter differs in having a straight, continuous band across clavus and corium and a narrower, elongate, white marking at apex of corium, a white ostiolar area, and middle coxae white with only the bases brown.

REDESCRIPTION: *Male*: Head, antennae, labium, and pronotum missing [because of the poor condition of the holotype and only known specimen, we have not measured this specimen]. COLORATION: Undersurface of thorax and ostiolar evaporative area reddish brown; mesoscutum and scutellum reddish brown; clavus reddish brown, white just past middle, brown apically; corium reddish brown, white band on clavus and corium narrowly disjunct at claval suture, with corial area set anteriorly above claval mark; apex of corium with a relatively narrow, rectangular, white mark anterior to cuneus not reaching inner margin adjacent to membrane; cuneus reddish brown; membrane fuscous; thorax reddish brown; forelegs missing, middle leg, including coxa and trochanter reddish brown; hind coxae white, remainder of legs missing. Abdomen missing. STRUCTURE: Scutellum swollen, conical; hemelytron weakly concave at middle. GENITALIA: Not examined.

DISTRIBUTION: Known only from Cuba.

DISCUSSION: We found what clearly is the holotype from “Cayamas, Cuba” among material determined as *C. albofasciatus* (det. by J.C.M. Carvalho) in the USNM collection. Although the

specimen is in poor condition, it does have the right hemelytron and scutellum intact. Based on the distinctly conical scutellum, *C. cubanus* is close to *C. gracilentis* Knight, which has a similar white band and is the only other species of the genus with a high conical-shaped scutellum (except for *C. illini* with an apically acute rather than round scutellar process). However, in *C. cubanus*, the white band across the clavus and corium is distinctly disjunct and the mark at the apex of the corium is much broader and more quadrate than in *C. gracilentis*. We also note that the ostiolar evaporative area in *C. cubanus* is reddish brown, whereas in *C. gracilentis* it is white, a character difference that appears consistent among all taxa having either reddish-brown or white evaporative areas.

HOLOTYPE male: **CUBA: Granma: Cayamas:** Cayamas, 9.1, E.A. Schwarz (AMNH_PBI 00286405) (USNM).

Cyrtopeltocoris fractifasciatus, new species

Figures 2, 4, 6, table 1

DIAGNOSIS: Recognized by the large eyes, narrow vertex, discontinuous white markings on corium and clavus, not forming a complete transverse band or just a slender band (fig. 2), and endosoma with a triangular, membranous, serrate flange apically (fig. 4). Most similar to *C. pronotosus* in general appearance, large eyes, and narrow vertex, but differs in the shorter body, the transverse hemelytral fascia broken at the claval suture, and the distinctive endosomal characters.

DESCRIPTION: *Male*: Mean total length 3.46. Coloration (fig. 2): Head brown; labium brown; pronotum dark brown; mesoscutum and scutellum reddish brown, or dark orange; scent-gland auricle brown; clavus brown or orange brown basally, ivory medially, brown apically; corium and embolium brown or orange brown basally, ivory medially, brown apically; white marks on corium and clavus independent, marks not forming a complete transverse band or—when so—band more slender (fig. 2); lateral ivory spot on base of corium with straight apical margin (fig. 2); cuneus reddish brown; membrane fuscous; antennal segments brown or slightly yellowish, with first segment yellowish brown (fig. 2); venter brown; mesepisternum reddish brown; procoxa and trochanter brown, meso- and metacoxae ivory with trochanters ivory and brown apically; femora and tibiae dark orange or brown; tarsi yellowish (fig. 2). Surface and vestiture: Vertex bearing long erect setae; pronotum and corium with recumbent setae. Structure (fig. 2): Slender; pronotum trapezoidal; scutellum slightly swollen basally; corium with lateral margin slightly convex basally at level of brown coloration; labium reaching posterior third of mesepisternum. genitalia (fig. 4): Endosoma relatively short, slender, beyond secondary gonopore with a triangular, membranous, serrate flange apically (fig. 4); phallosome slightly curved; left paramere with anterior process stout and short, posterior process elongate and curved downward; right paramere short and ovoid.

ETYMOLOGY: Named for the discontinuous transverse hemelytral fascia, from the Latin *fractus*, meaning “broken,” and *fasciatus*, meaning “enveloped with a band.”

DISTRIBUTION (fig. 6): Known from Baja California Sur.

HOLOTYPE male: **MEXICO: Baja California Sur:** Sur La Paz, 24.03876°N 110.29987°W, 108 m, 01 Feb 1965–03 Feb 1965, Vincent D. Roth (AMNH_PBI 00175540) (AMNH).

PARATYPES: **MEXICO: Baja California Sur:** 1.5 mi E of San Jorge, 23.48013°N 109.76791°W, 165 m, 24 Jul 1971, H.G. Real and R.E. Main, 1 ♂ (AMNH_PBI 00078577), 2 ♂ (AMNH_PBI 00078645, AMNH_PBI 00078582) (CAS); 25 Jul 1971, H.G. Real and R.E. Main, 1 ♂ (AMNH_PBI 00078583) (CAS).

OTHER SPECIMENS EXAMINED: **MEXICO: Baja California Sur:** 1.5 mi E of San Jorge, 23.48013°N 109.76791°W, 165 m, 24 Jul 1971, H.G. Real and R.E. Main, 2 ♂ (AMNH_PBI 00078584, AMNH_PBI 00078585) (CAS). Sierra la Laguna, 23.59361°N 109.96861°W, 1770 m, 31 Aug 1977, E. Fisher & R. Westcott, 1 ♂ (AMNH_PBI 00078586) (CAS).

Cyrtopeltocoris gracilentis Knight

Figures 2, 4, 6, table 1

Cyrtopeltocoris gracilentis Knight, 1930 (original description).

Cyrtopeltocoris oklahomae Knight, 1968: 162 (original description). New synonym.

DIAGNOSIS: Recognized by the long erect setae covering the entire dorsum, the wide vertex, the conical scutellum more strongly elevated than in any other species except *C. cubanus* and *C. illini* (figs. 1, 2), the continuous transverse fascia across corium and clavus, the basal ivory spot on the corium along the basal margin of the cuneus (fig. 2) that extends to the inner corial margin, the white ostiolar evaporative area, and the endosoma elongated beyond the secondary gonopore and with a rounded apex (fig. 4). Similar to *C. albofasciatus* in appearance, coloration, and structure of endosoma, but differs in having long setae on dorsum occurring on pronotum as well as scutellum and hemelytra, the scutellum more strongly elevated than in that species, and endosoma with a distinctive sclerotized bar distad of the secondary gonopore. Coloration and the long erect dorsal vestiture similar to those of *C. mexicanus* (fig. 3), but scutellum much more strongly elevated and transverse hemelytral fascia and white mark anterior to cuneus distinctly narrower.

REDESCRIPTION: *Male*: Mean total length 3.67. Coloration (fig. 2): Head reddish brown; labium yellowish brown; pronotum reddish brown; mesoscutum and scutellum reddish brown; scent-gland auricle white; clavus reddish brown basally, white medially and brown apically; corium and embolium brown apically and basally, white medially forming a continuous, unbroken fascia with clavus; medial part of transverse white band on corium more slender than laterally (fig. 2); corium with a white mark along basal margin of cuneus, extending nearly to inner margin of corium (fig. 2); cuneus reddish; membrane fuscous; antennae yellowish brown; venter brown; mesepisternum orange brown; procoxae reddish apically, yellowish basally, trochanter of front leg reddish, mesocoxa white with a brown spot basally, and metacoxae white, trochanters white; femora reddish brown basally, yellow apically; tibiae reddish brown, paler apically; tarsi yellowish. Surface and vestiture: Vertex bearing recumbent and erect simple setae;

pronotum bearing recumbent setae; scutellum and hemelytron with distinct erect setae; frons and calli distinctly granular. Structure (fig. 2): Slender; pronotum trapezoidal, tumid; scutellum distinctly swollen or conical (fig. 2); corium with lateral margin slightly convex basally at level of brown coloration; labium reaching metacoxa. genitalia (fig. 4): Endosoma coiled, slender, ending in rounded membranous apex with minute serrations (fig. 4); phallosome curved, ending in a rounded apex (fig. 4); left paramere strongly elevated, anterior process short and stout; posterior process elongate and distinctly curved downward; right paramere roundish, apex short, acuminate (fig. 4).

DISTRIBUTION (fig.6): This species is widely distributed in the eastern United States. Its distribution shows some overlap with that of *C. illini*, but otherwise appears to be the only species occurring in the area.

DISCUSSION: The holotype of *C. oklahomae* Knight, deposited in the USNM, is badly damaged. All body parts except the right hemelytron are missing. The synonymy of *C. oklahomae* is based on a dissected specimen from Claremore, Oklahoma, the type locality for this nominal taxon.

The holotype of *C. gracilentis* (fig. 2) is elongate and somewhat delicate in appearance. It is lighter reddish brown, in contrast to the dark reddish-brown or castaneous coloration of most known specimens of this species. Several specimens from Gainesville, Florida, are all more strongly castaneous and slightly more robust than the holotype from Alabama. In the westernmost part of the range in Oklahoma the more elevated scutellum, the white ostiolar auricle, and the complete white corial mark adjacent to the cuneus will separate *C. gracilentis* from *C. albofasciatus* (fig. 1), the latter having a less strongly elevated scutellum, a red ostiolar auricle, and the apical corial mark does not reach mesially to the membrane.

HOLOTYPE male of *Cyrtopeltocoris gracilentis* Knight: **USA: Alabama: Barbour Co.:** Eufaula, 31.89111°N 85.14556°W, Sept. 5, 1926, H.H. Knight (AMNH_PBI 00286406) (USNM).

HOLOTYPE male of *Cyrtopeltocoris oklahomae* Knight: **USA: Oklahoma: Rogers Co.:** Claremore, 36.3126°N 95.61609°W, 182 m, 20 Jun 1939, Kaiser-Nailon (AMNH_ENT 00286408) (USNM).

OTHER SPECIMENS EXAMINED: **USA: Arkansas: Clark Co.:** ~25 km SW of Arkadelphia, S side of I-30, Arkansas Forest, 33.937°N 93.237°W, 17 Jun 2009, K. Benjamin, 3♂ (AMNH_PBI 00414882–AMNH_PBI 00414884) (AMNH). **Conway Co.:** Petit Jean State Park, 35.11305°N 92.94972°W, 05 Aug 2008, R.L. Blinn, 1♂ (NCSU_ENT 00181531) (NCSU); 07 Aug 2008, R.L. Blinn, 2♂ (NCSU_ENT 00181532, NCSU_ENT 00181533) (NCSU). **Hempstead Co.:** Hope, 33.6669°N 93.5914°W, May 1925, L. Knobel, 1♂ (AMNH_PBI 00411078) (USNM). **Florida: Alachua Co.:** Gainesville, 29.63527°N 82.37111°W, 24 m, 28 Apr 1981–29 Apr 1981, T.J. Henry, 3♂ (AMNH_PBI 00410948–AMNH_PBI 00410950) (USNM). Gainesville, 3517 NW 10th Avenue, 29.66129°N 82.37512°W, 28 m, 09 May 1993–10 May 1993, R.E. Woodruff, 1♂ (AMNH_PBI 00410951) (USNM); 21 May 1993, R.E. Woodruff, 2♂ (AMNH_PBI 00411079, AMNH_PBI 00411080) (USNM). **Georgia: Crawford Co.:** Roberta, 32.72138°N 84.0125°W, 23 Apr 1946, P.W. Fattig, 1♂ (AMNH_PBI 00410930) (USNM). **Peach Co.:** Peach County, 32.5666°N 83.8333°W, 19 Aug 1943, Turner, light trap, 1♂ (AMNH_PBI 00410931) (USNM). **Kansas: Riley Co.:** Manhattan, 39.18361°N 96.57139°W, 29 May 1967, Gary F. Hevel, 1♂ (AMNH_PBI 00186375) (USNM). **Mississippi: Marshall Co.:** Holly Springs, 34.76759°N 89.44869°W, 187 m, 27 Jul 1977, Sara Hurdle, 1♂ (AMNH_PBI 00410946) (USNM). **Oktibbeha Co.:** Starkville, 33.45972°N 88.83333°W, 31

May 1975, W.H. Cross, 1 ♂ (MEMU_ENT 00106800) (MEMU); 33.45028°N 88.81833°W, 02 Jun 1981, W.H. Cross, 1 ♂ (AMNH_PBI 00410947) (USNM). **North Carolina: Harnett Co.:** Raven Rock St. Pk., 35.463°N 78.918°W, 24 May 2011–07 Jun 2011, R.L. Blinn, 1 ♂ (NCSU_ENT 00181535) (NCSU). **Scot-land Co.:** Sandhills Game Lands, 34.979°N 79.548°W, 500 m, 24 May 2010–14 Jun 2010, R.L. Blinn, 1 ♂ (NCSU_ENT 00181534) (NCSU). **Wake Co.:** Raleigh, 35.83269°N 78.72941°W, 110 m, 13 Jun 1934, R.W. Leiby, 1 ♂ (AMNH_PBI 00411040) (USNM). Raleigh, 35.7425°N 78.61°W, 04 Aug 1978, D.L. Stephan, 1 ♂ (AMNH_PBI 00076871) (OSAC). Raleigh, 35.83269°N 78.72941°W, 110 m, 14 May 1954, D.M. Weisman, 1 ♂ (AMNH_PBI 00404962) (CNC). **Oklahoma: McCurtain Co.:** Eagletown, 34.03416°N 94.57444°W, 12 Jul 1939, Kaiser-Nailon, 1 ♂ (AMNH_PBI 00410957) (USNM). **Rogers Co.:** Claremore, 36.3126°N 95.61609°W, 182 m, 20 Jun 1939, Kaiser-Nailon, 2 ♂ (AMNH_PBI 00410961, AMNH_PBI 00410962) (USNM). **South Carolina: Pickens Co.:** Clemson, 34.6834°N 82.8374°W, 10 Oct 1955, David Dunavan, light trap, 1 ♂ (AMNH_PBI 00175623) (AMNH). **Tennessee: Hamilton Co.:** Hamilton County, 35.22111°N 85.20888°W, 23 Aug 1943, Turner, light trap, 3 ♂ (AMNH_PBI 00410942–AMNH_PBI 00410944) (USNM). **Virginia: Dinwiddie Co.:** Fort Pickett, jct., 37.03383°N 77.88963°W, 110 m, 07 Sep 1993, S. Roble, 3 ♂ (AMNH_PBI 00410952–AMNH_PBI 00410954) (USNM).

Cyrtopeltocoris hallodapoides, new species

Figures 2, 5, 6, table 1

DIAGNOSIS: Recognized by the dull granular surface texture of the very weakly elevated pronotum (fig. 2) and the dartlike spine embedded in the apical membrane of the endosoma (fig. 5). Most similar in appearance to *C. brailovskyi* (fig. 1) based on granular surface of the head, pronotum, and scutellum, but larger and lacking the long erect setae on the antennae in that species.

DESCRIPTION: *Male:* Total length 3.06. Weakly elongate, nearly parallel sided. Coloration (fig. 2): Head dark reddish brown; antennae dark reddish brown, labium brown; pronotum dark reddish brown; mesoscutum and scutellum dark reddish brown; scent-gland auricle brown or reddish brown; clavus orange brown basally, white medially and brown apically; brown corium interrupted medially by white transverse fascia; basally with a roundish white spot adjacent to cuneus not attaining inner margin of corium; cuneus reddish; membrane translucent, weakly fuscous; venter brown; mesepisternum dark reddish brown; all coxae dark reddish brown, trochanters ivory; femora and tibia dark reddish brown; tarsi brown (fig. 2). Surface and vestiture (fig. 2): Head, pronotum, and scutellum dull, granular; vertex and pronotum bearing recumbent setae; corium with recumbent and simple erect setae; antennae bearing long erect setae. Structure (fig. 2): Nearly parallel sided; scutellum weakly swollen; corium with lateral margin slightly convex basally at level of brown coloration; labium just surpassing apex of metacoxa. genitalia (fig. 5): Endosoma relatively short with limited coiling, ending in membranous lobe bearing dartlike sclerotized spine (fig. 5); phallosome strongly curved, ending in rounded apex; left paramere with anterior process short and stout; posterior process elongate and distinctly curved downward; right paramere roundish with pointed apex.

ETYMOLOGY: Named for the similarity of its appearance to members of the genus *Hallodapus* Fieber.

DISTRIBUTION (fig. 6): Known from Baja California Sur.

HOLOTYPE male: **MEXICO: Baja California Sur:** El Sargento, 24.07806°N 109.99972°W, 29 Jul 1971, H.G. Real and R.E. Main (AMNH_PBI 00078654) (CAS).

Cyrtopeltocoris huachucae Knight

Figures 2, 5, 6, table 1

Cyrtopeltocoris huachucae Knight, 1968: 162 (original description); Carvalho and Afonso, 1977: 9 (list).

Cyrtopeltocoris conicatus Knight, 1968: 163 (original description). New synonym.

DIAGNOSIS: Recognized by the vestiture of the dorsum consisting primarily of short, recumbent, appressed setae and a few, long, erect setae on scutellum and at apex of corium, but most of corium and clavus devoid of such long erect setae (fig. 2); vertex broad; base of clypeus lower than front edge of swollen frons, forming a distinct notch; endosoma with a lateral dentate membranous lobe apically, ending in bird-head-like dentate apex (fig. 5). Similar to *C. albofasciatus* in size and coloration (fig. 1), differing by having only a few long erect setae on the hemelytron, the broader vertex, the swollen frons and lower base of the clypeus forming a distinct notch, the structure of endosoma (the last twisted in a way unlike the condition seen in *C. albofasciatus* and *C. gracilentis*), and the erect flange distad of the secondary gonopore.

REDESCRIPTION: *Male*: Mean total length 3.78. Coloration (fig. 2): Head brown; labium yellowish brown; pronotum brown to reddish brown; mesoscutum and scutellum reddish brown or dark brown; scent-gland auricle white; clavus reddish brown or orange brown basally, white medially, brown apically; corium dark brown or reddish brown basally, white medially, brown apically; corium with transverse white band just slightly swollen medially (fig. 2); lateral white spot anterior to cuneus roundish (fig. 2), not attaining inner margin of corium; cuneus reddish brown; membrane fuscous; antennal segments brown, with first segment yellowish brown (fig. 2); venter brown; mesepisternum reddish brown; procoxae reddish, meso- and metacoxae white, trochanters white; femora and tibia brown to reddish brown; tarsi yellowish brown to reddish brown (fig. 2). Surface and vestiture (fig. 2): Vertex with recumbent and simple erect setae; pronotum with recumbent setae; scutellum and hemelytron with recumbent, simple, erect setae. Structure (fig. 2): Slender; pronotum trapezoidal, posterior lobe weakly swollen (fig. 2); scutellum very weakly convex; corium with lateral margin slightly convex basally at level of brown coloration; labium reaching metacoxa. genitalia (fig. 5): Endosoma with a lateral flange subapically, ending in bird-head-like dentate membranous apex (fig. 5); phallosome distinctly curved, and apically pointed; left paramere with anterior process straight and stout; posterior process elongate and distinctly pointing downward; right paramere elongate, ending in hook.

DISTRIBUTION (fig. 6): Known from Arizona and extreme western Texas.

DISCUSSION: We have treated *C. conicatus* Knight as a junior synonym of *C. huachucae* based primarily on the overall similarity of the holotype of this nominal species to the larger

sample of specimens that we have identified as *C. huachucae*, noting especially the angulate notch formed by the frons and base of the clypeus and the white ostiolar evaporative area.

HOLOTYPE male of *Cyrtopeltocoris huachucae* Knight: **USA: Arizona: Cochise Co.:** Huachuca Mountains, VII-20, H.G. Barber, Holotype (AMNH_ENT 00286407) (USNM).

HOLOTYPE male of *Cyrtopeltocoris conicatus* Knight: **USA: Arizona: Cochise Co.:** Huachuca Mountains, Aug. 6, 05, H.G. Barber (AMNH_PBI 00286404) (USNM).

OTHER SPECIMENS EXAMINED: **USA: Arizona: Cochise Co.:** Bear Canyon, 31.38333°N 110.33333°W, 1829 m, 06 Jul 1966, W.J. Hanson, 1 ♂ (AMNH_PBI 00411058) (USNM). Cave Creek Ranch, 1 mi S Portal, 31.89882°N 109.14113°W, 08 Jun 1965, J.H. Davidson, J.M. Davidson, and M.A. Cazier, 1 ♂ (AMNH_PBI 00411059) (USNM). Chiricahua Mountains, Cave Creek Canyon, 31.8962°N 109.16367°W, 1646 m, 24 Jun 1968, Vincent D. Roth, 1 ♂ (AMNH_PBI 00392977) (AMNH). Chiricahua Mountains, Hidden Terrace, 4.5 mi SW of Portal, 31.8676°N 109.19499°W, 1646 m, 01 Jul 1982–05 Jul 1982, M.A. Cazier, 1 ♂ (AMNH_PBI 00175631) (AMNH). Huachuca Mountains, 5354 Ash Canyon Road, 0.5 mi W of Hwy 92, 31.38194°N 110.22444°W, 1554 m, 18 Jun 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411044) (USNM); 29 Jun 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411045) (USNM); 01 Jul 1992, N. McFarland, 2 ♂ (AMNH_PBI 00411046, AMNH_PBI 00411047) (USNM); 04 Jul 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411048) (USNM); 06 Jul 1992, N. McFarland, 2 ♂ (AMNH_PBI 00411049, AMNH_PBI 00411050) (USNM); 17 Jul 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411051) (USNM); 20 Jul 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411052) (USNM); 16 Sep 1992, N. McFarland, 2 ♂ (AMNH_PBI 00411053, AMNH_PBI 00411054) (USNM); 02 Oct 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411055) (USNM). Huachuca Mountains, Ash Canyon Rd., 31.3822°N 110.23143°W, 1554 m, 02 Jun 1997, T.J. Henry & A.G. Wheeler Jr., 1 ♂ (AMNH_PBI 00411056) (USNM); 03 Jun 1997, T.J. Henry and A.G. Wheeler, Jr., 1 ♂ (AMNH_PBI 00411057) (USNM). Southwestern Research Station of the AMNH, 5 mi W of Portal, 31.91358°N 109.206°W, 1646 m, 22 Aug 2000, J.C. Schaffner and M.J. Yoder, Light Trap, 1 ♂ (AMNH_PBI 00391893) (TAMU). Stewart Campground (W of Portal), 31.88611°N 109.17138°W, 1571 m, 20 Jul 1971–25 Jul 1971, J. Doyen, 1 ♂ (AMNH_PBI 00081084) (UCB). **Unknown co.:** Arizona, 01 Jul 1914, unknown collector, 1 ♂ (AMNH_PBI 00411077) (USNM). **Texas: Hudspeth Co.:** 0.5 mi E of Indio Mountain Reserve Station, 30.77333°N 105.01333°W, 1250 m, 12 Apr 2002, Diaz and Gillogly, 1 ♂ (AMNH_PBI 00391892) (TAMU).

Cyrtopeltocoris illini Knight

Figures 2, 5, 6, table 1

Cyrtopeltocoris illini Knight, 1941: 117 (original description).

DIAGNOSIS: Recognized by the globular head, small eyes, wide vertex with a carinate posterior margin (fig. 2), erect, conical, apically pointed scutellum (fig. 2) and apex of endosoma greatly surpassing secondary gonopore (fig. 5), the last attribute similar to condition in *C. nudipronotum*.

REDESCRIPTION: *Male:* Total length 3.63. Coloration (fig. 2): Head bright brownish orange; labium brown; pronotum bright brownish orange; mesoscutum and scutellum bright brownish orange; scent-gland auricle brown; clavus orange basally, white medially and brown apically; corium and embolium brownish orange basally, white medially and brown apically; white

transverse band on corium slightly concave medially (fig. 2); apex of corium bordering base of cuneus with an elongate, transverse, white mark nearly touching inner margin of corium; cuneus reddish brown; membrane fuscous; antennal segments yellow with II and III brownish basally, and IV brown (fig. 2); venter brown; mesepisternum orange brown to reddish brown; procoxa white, brownish basally, red apically, mesocoxa ivory with reddish spot, metacoxa ivory, trochanters orange brown; femora brownish orange to reddish brown; tibiae reddish brown, apex yellow; tarsi yellowish. Surface and vestiture (fig. 2): Vertex, pronotum, scutellum, and hemelytron bearing recumbent setae; entire body surface polished and shining. Structure (fig. 2): Head globular in dorsal view, vertex broad, flat; eyes small (fig. 2); pronotum campanulate, strongly swollen (fig. 2); scutellum forming an elongate vertical spine (fig. 2); corium with lateral margin distinctly concave medially; labium reaching metacoxa. genitalia (fig. 5): Endosoma irregularly coiled, apical portion extending well beyond secondary gonopore, largely membranous and flattened (fig. 5); phallosome strongly curved; left paramere with anterior process short; posterior process elongate and straight; right paramere rounded laterally and acuminate apically.

DISTRIBUTION (fig. 6): Restricted to the central Mississippi and Missouri River drainages, as one of only two species occurring in eastern North America.

DISCUSSION: The apically pointed, conical scutellum and globose head with proportionately small eyes make this taxon unmistakable. Specimens collected by Robert Blinn are labeled as occurring on *Poa* and *Festuca*, suggesting a grass-dwelling habit for this species, but other material labeled as occurring on *Baccharis* (Asteraceae).

PARATYPES: **USA: Illinois: Wayne Co.:** Geff, 38.43333°N 88.4°W, 140 m, 12 Jun 1934, DeLong and Ross, *Baccharis* sp. (Asteraceae), 1 ♂ (AMNH_PBI 00410963) (USNM). **Missouri: St. Louis Co.:** St. Louis, 38.61479°N 90.215°W, 180 m, 25 Jun 1939, R.C. Froeschner, 1 ♂ (AMNH_PBI 00410964) (USNM).

OTHER SPECIMENS EXAMINED: **USA: Kansas: Shawnee Co.:** State Lake [Shawnee County State Park], 39.2022°N 95.80069°W, 306 m, 07 Jun 1964, C.W. O'Brien, 1 ♂ (AMNH_PBI 00081109) (UCB). **Missouri: Boone Co.:** 1.3 mi N of Ashland Wildlife Area, 38.78058°N 92.19683°W, 247 m, 05 Jun 1981, R.L. Blinn, *Festuca* sp. (Poaceae), 2 ♂ (NCSU_ENT 00181536, NCSU_ENT 00181537) (NCSU); 19 Jun 1981, R.L. Blinn, *Festuca* sp. (Poaceae), 1 ♀ (NCSU_ENT 00181539) (NCSU); 03 Jul 1981, R.L. Blinn, *Festuca* sp. (Poaceae), 1 ♀ (NCSU_ENT 00181540) (NCSU). Rt 1, 0.6 mi S of jct of Hwy N, 38.7955°N 93.37469°W, 213 m, 09 Jun 1982, R.L. Blinn, *Poa* sp. (Poaceae), 1 ♂ (NCSU_ENT 00181538) (NCSU).

Cyrtopeltocoris mexicanus Carvalho and Costa

Figures 3, 5, 6, table 1

Cyrtopeltocoris mexicanus Carvalho and Costa, 1995: 230 (original description).

DIAGNOSIS: Recognized by the slender elongate appearance (fig. 3), general light brownish coloration, broad, white medial hemelytral fascia, large white quadrate marking on corium anterior to cuneal fracture, the long antennal segment I, the long erect setae on the dorsum,

and the endosoma with a distinct bifurcate apex (fig. 3). Most similar to *C. gracilentis* and *C. rubripes* in presence of long erect setae on entire dorsum, but distinguished from both by the relatively long antennal segment I, the much broader hemelytral fascia, and the quadrate white area anterior to cuneus; *C. gracilentis* with a more strongly produced scutellum, narrower hemelytral fascia, and nonoverlapping distribution and *C. rubripes* with a shorter, more compact, reddish body and more strongly diffuse white areas on the hemelytra.

REDESCRIPTION: *Male*: Mean total length 4.74. Coloration (fig. 3): Head orange brown; labium yellow with first segment orange; pronotum dark brownish orange to reddish brown; mesoscutum and scutellum brownish orange; scent-gland auricle whitish; clavus brownish orange basally, white medially, brown apically; corium orange basally, white medially, brown apically; apex of corium bordering cuneus with a large quadrate white spot; cuneus reddish brown; membrane fuscous; antennal segment 1 light brown, second light brown, red apically, third reddish on apical half, fourth reddish brown; venter brown; mesepisternum red; coxae ivory; trochanters and femora light brownish orange tinged with red; tibia bright red basally, paler apically; tarsi yellowish orange. Surface and vestiture (fig. 2): Dorsum with long erect setae. Structure (fig. 3): Elongate and slender; pronotum slightly trapeziform; scutellum weakly convex; labium reaching abdominal segment 3. genitalia (fig. 5): Endosoma coiled, slender, apex membranous, bifurcate, only moderately extending beyond secondary gonopore (fig. 5); phallosome strongly curved, round apically; left paramere with anterior process strong, posterior process elongate and almost straight; right paramere elongate.

DISTRIBUTION (fig. 6): Known from southern California and Baja California, Mexico.

DISCUSSION: The holotype of *C. mexicanus*, described from "B. Calif. [Baixa Califó, Mexico], 2 mi. NE of Rosario, 7.XII.1958, H.B. Leech col.," is lost. It was not returned to the California Academy of Sciences as indicated in the original description and apparently was destroyed in the 2018 Museu Nacional (Rio de Janeiro) fire. Based on the original description, which included an illustration of the adult male and figures of male genitalia, we are able to associate this species with the series of specimens listed below. To ensure nomenclatural stability, we are selecting the male listed below as the neotype.

NEOTYPE male (here designated): **MEXICO: Baja California Sur:** 47 km E of Rancho S.J. Castro, Viscaino Peninsula, 25.48333°N 111.5159°W, 25 Mar 1980, J.D. Pinto (AMNH_PBI 00083293) (UCR).

OTHER SPECIMENS EXAMINED: **MEXICO: Baja California Norte:** Arroyo Hondo, 5 mi S of El Socorro, 30.25699°N 115.7931°W, 18 m, 25 Mar 1973, J. Powell, 2♂ (AMNH_PBI 00081099, AMNH_PBI 00081100) (UCB). 10 mi SE of El Rosario, 29.95247°N 115.57655°W, 31 Mar 1976, J. Doyen, 1♂ (AMNH_PBI 00081108) (UCB). Millers Landing, S.W. Rosarito, 28.49139°N 114.06346°W, 7 m, 29 Mar 1973, J. Powell, 1♂ (AMNH_PBI 00081090), 2♂ (AMNH_PBI 00081088, AMNH_PBI 00081089) (UCB); 05 Apr 1976, P. Rude, 1♂ (AMNH_PBI 00081096) (AMNH), 1♂ (AMNH_PBI 00081098) (UCB); 06 Jun 1976, P. Rude, 1♂ (AMNH_PBI 00081092) (AMNH), 4♂ (AMNH_PBI 00081091, AMNH_PBI 00081093–AMNH_PBI 00081095) (UCB). **Baja California Sur:** 47 km E of Rancho S.J. Castro, Viscaino Peninsula, 25.48333°N 111.5159°W, 25 Mar 1980, J.D. Pinto, 1♂ (AMNH_PBI 00083296), 3♂ (AMNH_PBI 00083298, AMNH_PBI 00083295, AMNH_PBI 00083297) (UCR). **USA: Arizona: Pinal Co.:** 2 km SW of Malpais Hill, 32.903°N, 110.744°W, 17 Apr. 2020, J.T. Botz, UV/MV

lights, 4♂ (AMNH_PBI 00162276-00162279) (USNM). Tom Mix Monument, 32.821N, 111.204W, 25 Apr. 2020, J.T. Botz, UV/MV lights, 5♂ (AMNH_PBI 00162280-00162284) (USNM). **California: Los Angeles Co.:** Glendale, 34.1425°N 118.25417°W, 11 Jul 1952, W.M. Schlinger, 1♂ (AMNH_PBI 00086781) (UCD). Tanbark Flats, San Gabriel Mountains, 34.2035°N 117.76105°W, 823 m, 05 Jun 1950, B.J. Adelson, 1♂ (AMNH_PBI 00068154) (JTP). **Riverside Co.:** San Jacinto Mountains, [Little] Tahquitz Valley, 33.76478°N 116.66269°W, 2429 m, 06 Jul 1950, H.M. Graham, 1♂ (AMNH_PBI 00411093) (USNM).

Cyrtopeltocoris nudipronotum, new species

Figures 3, 5, 6, table 1

DIAGNOSIS: Recognized by the distinctly convex pronotum and scutellum; pronotum glabrous and shining laterally and finely rugulose medially (fig. 3); white transverse fascia on hemelytron broad, more or less parallel sided (fig. 3); and endosoma greatly extending beyond secondary gonopore with subapical lateral membranous lobe (fig. 5). Most similar to *C. albofasciatus*, *C. gracilentis*, and *C. huachucae* in general appearance, but differing from all of them by its distinctive pronotal surface and by endosoma greatly extending beyond secondary gonopore; differing from *C. albofasciatus* and *C. gracilentis* by the presence of short recumbent setae rather than long erect setae on hemelytron. *Cyrtopeltocoris nudipronotum* is similar to *C. ajo* in having the same pronotal surface texture and general dorsal color pattern but differs in the evenly rounded frons and clypeus and a much smaller, more slender right paramere, whereas *C. ajo* has a distinct notch at the base of the clypeus (similar to *C. huachucae*) and the right paramere is large and broad.

DESCRIPTION: *Male:* Mean total length 3.92. Coloration (fig. 3): Head reddish brown; labium brown; pronotum dark brown, dark brown and blackish laterally, or dark orange and brownish black laterally; mesoscutum and scutellum dark brown; scent-gland auricle brown; clavus brown or brownish orange basally, sometimes slightly darker at margin of white medial part, white medially, brown apically; corium brown or dark brownish orange basally, white medially, brown apically; white band straight or just very slightly swollen medially (fig. 3); corium with roundish white spot at cuneal fracture not reaching inner margin; cuneus dark reddish brown; membrane fuscous; antennae brown with segment 1 yellowish brown, segment 4 sometimes reddish; venter reddish; mesepisternum reddish brown; coxae and trochanters ivory; femora and tibiae reddish brown; tarsi yellowish. Surface and vestiture (fig. 3): Head, scutellum, and clavus bearing long erect setae; pronotum and corium with recumbent setae; pronotum glabrous and polished laterally and finely rugulose and dull medially. Structure (fig. 3): Slender; pronotum distinctly swollen, campanulate (fig. 3); scutellum distinctly swollen; corium with lateral margin slightly convex basally at level of brown coloration; labium reaching metacoxae. genitalia (fig. 5): Endosoma coiled, slender, with a subapical, dentate, lateral membranous lobe; secondary gonopore strongly removed from apex of endosoma (fig. 5); phallosome just slightly curved, with a widened lobelike apex; left paramere with anterior process stout, posterior process elongate and curved downward; right paramere short and widened basally.

ETYMOLOGY: Named for the glabrous lateral areas of the pronotum, from the Latin *nudus*, meaning “bare,” and pronotum.

DISTRIBUTION (fig. 6): Known from Baja California, Mexico, and southern California.

HOLOTYPE male: **MEXICO: Baja California Norte:** Coastal dunes, 8 mi NW of San Quintin, 30.60818°N 116.01446°W, 2 m, 13 Jun 1973, J. Doyen (AMNH_PBI 00081082) (CAS).

PARATYPES: **MEXICO: Baja California:** 12 mi. E El Rosario, 32.2932°N 116.9931°W, 188 m, 10 Jun 1979, none, 2 ♂ (AMNH_PBI 00083300, AMNH_PBI 00083299) (UCR). **Baja California Norte:** 1.5 mi S of Punta Prieta, 28.9079°N 114.14881°W, 191 m, 13 Aug 1971, H.G. Real and R.E. Main, 1 ♂ (AMNH_PBI 00078615) (CAS). Millers Landing, S.W. Rosarito, 28.49139°N 114.06346°W, 7 m, 05 Apr 1976, P. Rude, 3 ♂ (AMNH_PBI 00081102–AMNH_PBI 00081104) (UCB). **Baja California Sur: Comondú Municipality:** Las Barracas, 25.99638°N 112.19722°W, 29 Apr 1984, P. DeBach, 1 ♂ (AMNH_PBI 00083996) (UCR); 09 Jun 1984, P. DeBach, 1 ♂ (AMNH_PBI 00083994) (UCR). **Mulegé Municipality:** 66 rd. km. W Vizcaino, 27.45°N 113.95°W, 24 Mar 1980–25 Mar 1980, John D. Pinto, 1 ♂ (AMNH_PBI 00083301) (UCR). 1 mi S of Mulege, 26.87158°N 111.97989°W, 128 m, 27 Aug 1959, K.W. Radford and F.G. Werner, 1 ♂ (AMNH_PBI 00411095) (USNM). **Unknown municipality:** 1.5 mi E of San Jorge, 23.48013°N 109.76791°W, 165 m, 24 Jul 1971, H.G. Real and R.E. Main, 2 ♂ (AMNH_PBI 00078627, AMNH_PBI 00078628) (AMNH), 25 ♂ (AMNH_PBI 00078629–AMNH_PBI 00078636, AMNH_PBI 00078579, AMNH_PBI 00078587–AMNH_PBI 00078599, AMNH_PBI 00292462, AMNH_PBI 00292463, AMNH_PBI 00078680) (CAS); 25 Jul 1971, H.G. Real and R.E. Main, 4 ♂ (AMNH_PBI 00078622, AMNH_PBI 00078624–AMNH_PBI 00078626) (AMNH), 3 ♂ (AMNH_PBI 00078649, AMNH_PBI 00078650, AMNH_PBI 00078648), 18 ♂ (AMNH_PBI 00078618–AMNH_PBI 00078621, AMNH_PBI 00078623, AMNH_PBI 00078602–AMNH_PBI 00078614) (CAS). 3 mi N of San Jose Viejo, 26.4267°N 112.15°W, 16 Jul 1971, H.G. Real and R.E. Main, 1 ♂ (AMNH_PBI 00078616) (CAS). 6 mi N of San Jose del Cabo, 23.137°N 109.683°W, 10 Sep 1967, J. Chemsak, A. & M. Michelbacher, 1 ♂ (AMNH_PBI 00081101) (UCB). El Sargento, 24.07806°N 109.99972°W, 29 Jul 1971, H.G. Real and R.E. Main, *Parthenium hysterophorus* L. (Asteraceae), 1 ♂ (AMNH_PBI 00078581), 1 ♂ (AMNH_PBI 00078651), 11 ♂ (AMNH_PBI 00078637–AMNH_PBI 00078643, AMNH_PBI 00078578, AMNH_PBI 00078600, AMNH_PBI 00078601) (CAS). Isla San Jose, 1 mi S Punta Colorado, 25.04611°N 110.68388°W, 08 Apr 1974–09 Apr 1974, John T. Doyen, 1 ♂ (AMNH_PBI 00078617) (CAS). **USA: California: Los Angeles Co.:** Burbank, 34.18083°N 118.30806°W, 14 Jul 1930, C.H. Hicks, 1 ♂ (AMNH_PBI 00186384) (USNM). **San Bernardino Co.:** 6 mi E of Yermo, Mojave River, dry creek bed, 34.91472°N 116.71113°W, 556 m, 27 Aug 1952, H.B. Leech & J.W. Green, 1 ♂ (AMNH_PBI 00078644) (CAS).

Cyrtopeltocoris pronotosus, new species

Figures 3, 5, 6, table 1

DIAGNOSIS: Recognized by the claval portion of the transverse, white, hemelytral fascia offset posteriorly relative to portion on corium (fig. 3); dorsum bearing erect setae; and endosoma slender apically and terminating in a sclerotized point (fig. 5). Most similar to *C. fractifasciatus* in general appearance, very large eyes, and narrow vertex, but with longer body, unbroken medial fascia, and endosoma without the apicolateral, triangular, membranous lobe seen in that species (fig. 4).

DESCRIPTION: *Male*: Total length 3.95. Coloration (fig. 3): Head dark brown; labium yellowish brown; pronotum dark brown; mesoscutum and scutellum dark reddish brown; scent-gland auricle brownish; clavus brown apically and basally, white medially; corium brown apically and basally, white medially; medial part of transverse white fascia on corium offset from part on clavus (fig. 3); white spot at apex of corium rounded medially (fig. 3), not attaining inner margin of corium; cuneus reddish brown; membrane fuscous; antennal segments brown, with first segment yellowish brown; venter brown; mesepisternum reddish brown; procoxae reddish apically, yellowish basally, trochanter of front leg reddish, meso- and metacoxae ivory, trochanters ivory; femora and tibiae reddish brown with pro- and mesotibiae yellowish on apical half, metatibia yellowish apically; tarsi yellowish. Surface and vestiture (fig. 3): Vertex bearing recumbent and simple erect setae; pronotum bearing recumbent setae; scutellum and hemelytron with distinct erect setae (fig. 3). Structure (fig. 3): Slender; pronotum trapezoidal, swollen basally; scutellum distinctly swollen; corium with lateral margin slightly convex basally at level of brown coloration; labium reaching metacoxa. genitalia (fig. 5): Endosoma only weakly coiled, slender, apical portion slender and ending in a sclerotized point; phallosome rectangularly curved, pointed; left paramere with anterior process straight and pointed; posterior process elongate and curved downward; right paramere roundish, distinctly pointed.

ETYMOLOGY: Named for the swollen pronotum.

DISTRIBUTION (fig. 6): Known only from Baja California Sur, Mexico.

HOLOTYPE male: **MEXICO: Baja California Sur:** Sierra de la Laguna, La Laguna, 17.3 air mi ENE of Todos Santos, 23.55716°N 109.9793°W, 1829 m, 17 Dec 1979–18 Dec 1979, unknown collector, *Quercus devia* Goldman (Fagaceae) (AMNH_PBI 00125584) (CSCA).

Cyrtopeltocoris rubripes (Knight), new combination

Figures 3, 5, 6, table 1

Sericophanes rubripes Knight, 1968: 161 (original description).

Sericophanes tumidifrons Knight, 1968: 160 (original description). New synonym.

DIAGNOSIS: Recognized by the somewhat robust body form, long erect setae on dorsum, generally dull appearance of hemelytron compared with the shining, campanulate pronotum, the relatively short antennal segment I, the broad vertex, the conspicuously swollen frons (fig. 3), and the robust, tightly coiled endosoma with a triangular subapical flap distal to the secondary gonopore (fig. 5). Similar to *C. mexicanus* in distribution, reddish coloration, and erect setae on dorsum, but *C. mexicanus* distinguished by the shorter first antennal segment, the nearly straight-sided posterior lobe of pronotum, the more elongate body form (fig. 3), and the slender, rather weakly coiled endosoma lacking the subapical triangular flap (fig. 5).

REDESCRIPTION: *Male*: Mean total length 4.15. Coloration (fig. 3): Head orange brown; labial segment 1 red, segment 2 pale, segments 3 and 4 reddish; pronotum dark orange to brown; mesoscutum and scutellum brownish orange; scent-gland auricle whitish; clavus hemelytra with a broad, weakly defined, white to transparent fascia at level near the apex of the

scutellum, extending anteriorly on exocorium, and with a large white quadrate marking along cuneal fracture; clavus orange basally, corium and clavus broadly brown on posterior half (fig. 3); membrane pale translucent brown, cells weakly infusate; antennae pale to orange; legs pale, femora tinged with red apically (fig. 3); venter reddish brown. Surface and vestiture (fig. 3): Dorsum shining, weakly rugulose; head, pronotum, and appendages bearing recumbent short setae; pronotum, mesoscutum, and scutellum in addition with simple erect setae and corium with long, erect, pale setae (fig. 3). Structure (fig. 3): Relatively stout bodied, costal margin of corium moderately sinuous; pronotum weakly campanulate; scutellum more or less flat; labium reaching abdominal segment 3. genitalia (fig. 5): Endosoma heavy bodied, with a single tight coil; secondary gonopore distinctly removed from apex, apical portion flattened with a dentate triangular projection (flap); phallosome and parameres as in generic description.

Female: Unknown.

DISTRIBUTION (fig. 6): Known from Arizona, southern California, and southern Nevada.

DISCUSSION: After examination of the holotype, and dissection of the male genitalia of material that is clearly conspecific, we transfer *Sericophanes rubripes* Knight to *Cyrtopeltocoris*.

The holotype of *Sericophanes tumidifrons* Knight has no legs or antennae. Nonetheless, based on the shape of the head in lateral view, the golden coloration of the head and pronotum, and the weakly elevated scutellum, we transfer *S. tumidifrons* to *Cyrtopeltocoris* and treat it as a junior synonym of *C. rubripes* (Knight). The transverse fascia is narrowed medially in the type of *S. tumidifrons* whereas it is of more or less equal width across the breadth of the hemelytra in most specimens we assign to *S. rubripes*. Based on page priority, *S. tumidifrons* would be the senior synonym, but the holotype of *S. rubripes* is in better shape and the identity of the species therefore more easily established. For these reasons, we treat *S. rubripes* as the valid name under the rule of first reviser.

In addition, we have found a brachypterous male that we initially associated with *C. rubripes*, based its reddish coloration and distribution, but examination of the male genitalia indicates it apparently represents a new species. Insufficient material precludes describing it at this time.

HOLOTYPE male of *Sericophanes rubripes* Knight: **USA: California: Inyo Co.:** Argus Mountains, 35.74722°N 117.39444°W, 23 IV 934, unknown collector (AMNH_ENT 00286412) (USNM).

HOLOTYPE male of *Sericophanes tumidifrons* Knight: **USA: California: San Bernardino Co.:** Camp Baldy, VII 29 20, L.L. Muchmore (AMNH_PBI 00286413) (USNM).

OTHER SPECIMENS EXAMINED: **USA: Arizona: Gila Co.:** 8 mi SW jct rts 87 and 188 (off Rt 87), Tonto National Forest, 33.55989°N 111.21341°W, 1219 m, 27 May 1983–28 May 1983, R. Schuh and G. Stonedahl, 7 ♂ (AMNH_PBI 00175604, AMNH_PBI 00175612–AMNH_PBI 00175617) (AMNH). **Maricopa Co.:** Salt River Canyon at Apache Lake, 33.55811°N 111.53153°W, 610 m, 28 Apr 1981, D.A. and J.T. Polhemus, 1 ♂ (AMNH_PBI 00068153) (JTP). **Pima Co.:** Desert Lab Tumamoc Hill, 32.21407°N 111.00556°W, 948 m, 29 Sep 1993, D.A. Polhemus, 2 ♂ (AMNH_PBI 00068147, AMNH_PBI 00068146) (JTP). Tucson, USDA Laboratory, 32.27611°N 110.94019°W, 720 m, 10 Apr 1989, T.J. Henry and A.G. Wheeler, Jr., *Baccharis* sp. (Asteraceae), 1 ♂ (AMNH_PBI 00411090) (USNM). **California: Imperial Co.:**

Black Mountain, 33.0548°N 114.82833°W, 648 m, 29 Apr 1978, Brown and Faulkner, *Parthenium hysterophorus* L. (Asteraceae), 1 ♂ (AMNH_PBI 00074387) (SDNH). **Kern Co.:** Red Rock Canyon, 35.325°N 117.94972°W, 02 May 1968, J. Doyen, *Parthenium hysterophorus* L. (Asteraceae), 3 ♂ (AMNH_PBI 00081085–AMNH_PBI 00081087) (UCB). **Los Angeles Co.:** Los Angeles, 34.05222°N 118.24278°W, no date provided, Coquillett Collection, *Baccharis* sp. (Asteraceae), 1 ♂ (AMNH_PBI 00411089) (USNM). **Riverside Co.:** 5 mi S of Palm Springs, Palm Canyon, 33.75799°N 116.54444°W, 212 m, 08 Jun 1978, J.D. Pinto, *Parthenium hysterophorus* L. (Asteraceae), 1 ♂ (AMNH_PBI 00083294) (UCR). **San Bernardino Co.:** 9 mi N, 10 mi E of Ridgecrest, 35.75496°N 117.48853°W, 945 m, 12 Apr 1981, D. Giuliani, 1 ♂ (AMNH_PBI 00125581) (CSCA). Lucerne Valley, 34.4439°N 116.9678°W, 898 m, 27 May 1974, G.A. Marsh, *Parthenium hysterophorus* L. (Asteraceae), 1 ♂ (AMNH_PBI 00083997) (UCR). **Nevada: Clark Co.:** Charleston Peak, 36.27105°N 115.55096°W, 1829 m, 20 Jul 1982, J.T. Polhemus, 1 ♂ (AMNH_PBI 00175611) (JTP). **Pershing Co.:** Woolsey RR Station, 40.28111°N 118.36361°W, 06 Jul 1973, T.R. Haig, 2 ♂ (AMNH_PBI 00125582, AMNH_PBI 00125583) (CSCA).

Neocyrtopeltocoris, new genus

TYPE SPECIES: *Sericophanes triangularis* Knight, 1918. By present designation.

DIAGNOSIS: Recognized among North American Miridae by the following combination of characters: flattened pronotal collar; contrasting white or pale transverse fascia on hemelytra at midpoint of claval commissure formed by two triangles with their apices directed toward the midline of body (fig. 7), costal margin with a distinct stridulitrum (and plectrum on hind femur); setiform parempodia; and minute pulvilli. Males macropterous, weakly ant mimetic; endosoma long, filamentous, apex ornamented apicad of secondary gonopore with crenulate projections (fig. 8); phallosome bearing a dorsomedial spinelike projection on apical portion (fig. 8). Females always strongly brachypterous, apical half of abdomen exposed beyond truncate apex of hemelytra; myrmecomorphic (fig. 7).

Similar to *Cyrtopeltocoris*, but this taxon has a transverse hemelytral fascia formed of two more or less triangular elements with the apex of each located near the apex of the scutellum.

DESCRIPTION: *Male*: Total length 2.97–4.38. Coloration (fig. 7): Ranging from castaneous, including appendages, to reddish with nearly pale appendages; hemelytron (fig. 7) with a white or pale contrasting transverse fascia the midpoint of the claval commissure formed by two triangles with their apices directed toward the midline of body and a strong white patch on corium along cuneal fracture. Surface and vestiture (fig. 7): Dorsum with long, erect, simple setae; antennae with short appressed vestiture. Structure (fig. 7): Elongate, more or less parallel sided; head distinctly projecting anterior to eyes and with prominent clypeus; eyes large, prominent; pronotum campanulate, anterior margin in the form of a flattened collar, posterior lobe inflated and moderately elevated (fig. 7); scutellum elevated in form of a low mound; corium weakly declivent laterally, costal margin nearly straight, with a distinct stridulitrum for most of length (and plectrum on inner side of hind femur); labium long and slender, reaching at least to base of abdomen. Claws long, slender, gently curving; parempodia setiform; pulvilli minute. genitalia (fig. 8): Endosoma long, filamentous, secondary gonopore preapical, apex with one or more crenulate projections; phallosome large with elongate apical portion right

angulate and bearing a dorsomedial spinelike projection (fig. 8); left paramere strongly elevated toward apex; right paramere short, rounded laterally, and tapering toward apex (fig. 8).

Female: Coloration of body and appendages (fig. 7) similar to male. Eyes relatively smaller than in male. Pronotum nearly straight sided, pronotal collar not so broad and flat as in male; scutellum more strongly elevated than in male. Hemelytra truncate, posteriorly, covering basal half of abdomen. GENITALIA: Not examined.

DISCUSSION: The species we place in *Neocyrtopeltocoris* are members of the Hallodapini by virtue of the structure of the male genitalia and the flat pronotal collar. They do not, however, have the color pattern of the type and other species that we place in *Cyrtopeltocoris*, but rather have a transverse hemelytral fascia formed of two triangles with their apices meeting at or near the dorsal midline (fig. 7), a situation very similar to that seen in species of *Sericophanes*, and presumably the reason Knight initially (1918) and later (1930, 1968) placed *triangularis* in *Sericophanes*; a similar pattern is also seen in Old World Hallodapini in species of the genus *Alloeomimus* Reuter. We therefore create a new genus in recognition of their distinctive attributes, including the dorsal color pattern and dorsomedial spinelike projection on the apical portion of the phallotheca (fig. 8), whereas at the same time correcting their subfamilial and tribal placements.

See also Discussion concerning distributional patterns under *Cyrtopeltocoris* (above).

Neocyrtopeltocoris froeschneri, new species

Figures 7, 8, table 1

DIAGNOSIS: In addition to the characters summarized in the generic diagnosis, recognized by the castaneous or dark reddish-brown coloration, including appendages (fig. 7) and the relatively small size. Most easily confused with *Neocyrtopeltocoris triangularis* in body form and color pattern, but that species larger, with an overall orange coloration and a white spot at the apex of the claval commissure (fig. 7), and with a nonoverlapping distribution (fig. 9). Also potentially confused with *Cyrtopeltocoris* spp., but members of that genus always with hemelytral fascia more or less parallel sided.

DESCRIPTION: *Male*: Total length 2.97. Coloration (fig. 7): Castaneous or dark reddish brown, including appendages. Surface and vestiture (fig. 7): Dorsum with long erect simple setae; antennae and legs with short, recumbent or appressed simple setae. Structure (fig. 7): As in generic description. genitalia: Not examined.

Female: Unknown.

ETYMOLOGY: This species is named after the well-known late heteropterist and collector of the holotype, Richard C. Froeschner, for his numerous contributions to heteropterology.

DISTRIBUTION (fig. 9): Known only from the type locality.

DISCUSSION: This species is known only from the holotype. Its overall morphology is similar to that of *N. triangularis*, but the smaller size and castaneous coloration are distinctive.

HOLOTYPE male: **USA: Missouri: Holt Co.:** Mound City, 40.12979°N 95.23482°W, 268 m, 08 Jun 1950, R.C. Froeschner, *Baccharis* sp. (Asteraceae), 1 ♂ (AMNH_PBI 00411088) (USNM).

Neocyrtopeltocoris triangularis (Knight), new combination

Figures 7–9, table 1

Sericophanes triangularis Knight, 1918: 81 (original description).

Sericophanes albomaculatus Knight, 1930: 320 (original description). New synonym.

Sericophanes fuscicornis Knight, 1968: 160 (original description). New synonym.

Sericophanes nevadensis Knight, 1968: 160 (original description). New synonym.

DIAGNOSIS: In addition to the characters outlined in the generic diagnosis, recognized by the usually orange general coloration (sometimes darker and more strongly brown) and the white marking on corium adjacent to apex of claval commissure. Most easily confused with *Neocyrtopeltocoris froeschneri*, n. sp. (fig. 7), in body form and color pattern, but that species smaller, with an overall castaneous or dark reddish-brown coloration, without the white marking on corium adjacent to apex of the claval commissure, and with a nonoverlapping distribution (fig. 9). Also potentially confused with *Cyrtopeltocoris* spp., but members of that genus always with hemelytral fascia more or less parallel sided (figs. 1–3).

REDESCRIPTION: *Male:* Mean total length 3.66. Coloration (fig. 7): Orange to nearly brown, including appendages, tibiae more strongly reddish; corium with distinct white patch adjacent to apex of claval commissure. Surface and vestiture (fig. 7): Dorsum with long, erect, simple setae; antennae and legs with short, recumbent/appressed simple setae. Structure (fig. 7): As in generic description. genitalia (fig. 8): Endosoma long, filamentous, secondary gonopore preapical; phallosome large with elongate apical portion, right angulate and bearing a dorsomedial spinelike projection; left paramere strongly elevated toward apex; right paramere short, rounded laterally, and tapering toward apex.

Female (fig. 7): Coloration of body and appendages similar to male. Structure as in generic description. **GENITALIA:** Not examined.

DISTRIBUTION (fig. 9): Range from southern California in the West to central Texas in the East, and from North Dakota in the north to Coahuila and Sonora, Mexico in the South.

DISCUSSION: We treat the nominal species *Sericophanes albomaculatus* Knight, *S. fuscicornis* Knight, and *S. nevadensis* Knight—all of which were described from single specimens—as junior synonyms of *S. triangularis* Knight based on examination of the type specimens and a substantial amount of additional material from across the range of what we construe as a single broadly distributed taxon.

Neocyrtopeltocoris albomaculatus Knight is more strongly castaneous and appears to have body proportions that are a bit shorter and broader than most specimens Knight examined in his description of *N. triangularis*.

A specimen bearing the locality label data listed by H.H. Knight for the holotype of *Sericophanes fuscicornis* Knight was found in the USNM collection but bore no identification label, a situation we attribute to a housekeeping problem by Knight or upon the transfer of his collection to the USNM. We have affixed an appropriate holotype label. We furthermore treat *S. fuscicornis* as a junior synonym of *N. triangularis*.

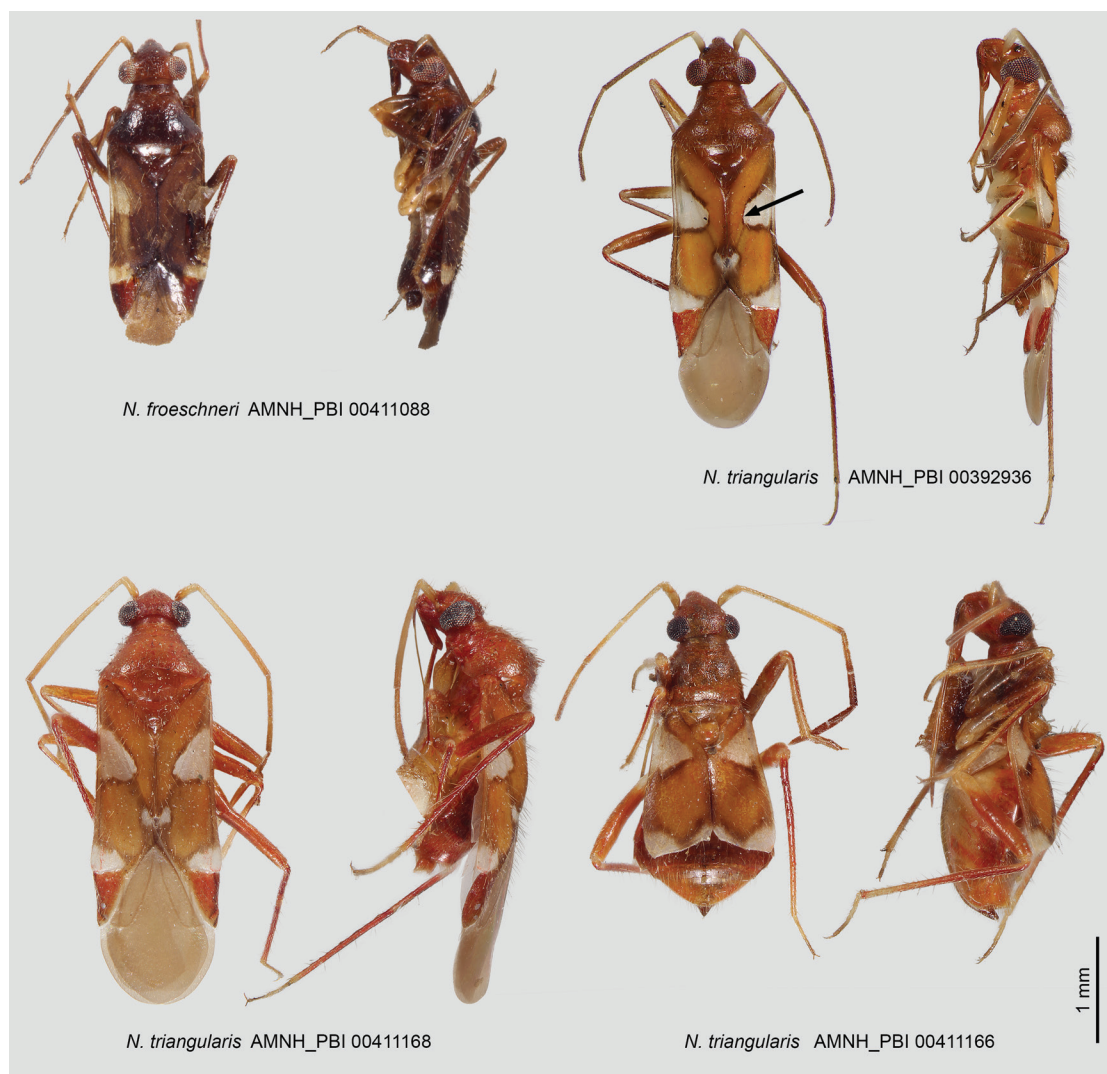


FIG. 7. Dorsal habitus and lateral view images of *Neocyrtopeltocoris* spp., *N. froeschneri*, *N. triangularis*.

The apex of the endosoma in the four nominal species listed above shows some variation (see fig. 8), but it does not correlate with other observed variation, such as intensity of coloration or total body length. We have therefore recognized a single taxon having a very broad distribution.

We examined more specimens of this species than any other member of the North American Hallodapini. There is also a significant amount of plant data associated with *N. triangularis*, the preponderance from the genera *Baccharis* and *Parthenium* (Asteraceae). These observations might suggest that the biology of this species is dissimilar to that of members of *Cyrtopeltocoris* spp., most collections of which give little indication of phytophagy or host-plant preference, as we have argued above.

HOLOTYPE male of *Sericophanes triangularis* Knight: **USA: New Mexico: Luna Co.:** Deming, July 12, 1917, H.H. Knight [no PBI USI number] (CUIC).

HOLOTYPE male of *Sericophanes albomaculatus* Knight: **USA: Jeff Davis Co.:** Ft. Davis Mts., no date, O.C. Poling (AMNH_PBI 00286410) (USNM).

HOLOTYPE male of *Sericophanes fuscicornis* Knight: **USA: Arizona: Pima Co.:** Empire Mountains, 31.88919°N 110.62568°W, 1524 m, 20 May 1928, A.A. Nichol, *Baccharis* sp. (Asteraceae) (AMNH_PBI 00411127) (USNM).

HOLOTYPE male of *Sericophanes nevadensis* Knight: **USA: Nevada: Nye Co.:** Mercury [M(T)], Aug. 23, 1965, Jose Merino [at laboratory light] (AMNH_PBI 00286411) (USNM).

PARATYPES of *S. triangularis*: **USA: Arizona: Cochise Co.:** Bowie, 32.3264°N 109.487°W, 1147 m, 15 Jul 1917, H.H. Knight, 1 ♂ (AMNH_PBI 00411145) (USNM). Texas Pass, 32.06048°N 110.0791°W, 1524 m, 20 Jul 1917, H.H. Knight, 4 ♂ (AMNH_PBI 00411141–AMNH_PBI 00411144) (USNM). **New Mexico: Luna Co.:** Deming, 32.26861°N 107.75806°W, 12 Jul 1917, H.H. Knight, light trap, 13 ♂ (AMNH_PBI 00411128–AMNH_PBI 00411140) (USNM). **South Dakota: Haakon Co.:** Philip, 44.03943°N 101.6651°W, 660 m, 23 Jun 1923, H.C. Severin, *Baccharis* sp. (Asteraceae), 1 ♂ (AMNH_PBI 00411166) (USNM).

OTHER SPECIMENS EXAMINED: **MEXICO: Coahuila:** Bilbao, 8 mi. N of Viesca, sand dunes, 25.46565°N 102.8°W, 30 May 1981, J. Doyen and J. Liebherr, *Parthenium hysterophorus* L. (Asteraceae), 1 ♂ (AMNH_PBI 00081263) (UCB). **Sonora:** 40 mi W of Moctezuma, 29.81666°N 110.33316°W, 27 Apr 1981, D.A. and J.T. Polhemus, 1 ♂ (AMNH_PBI 00392965) (JTP). **USA: Arizona: Cochise Co.:** Bowie, 32.3264°N 109.487°W, 1147 m, 15 Jul 1917, H.H. Knight, 1 ♂ (AMNH_PBI 00411152) (USNM). Chiricahua Mountains, Hidden Terrace, 4.5 mi SW of Portal, 31.8676°N 109.19499°W, 1646 m, 21 Jul 1982–25 Jul 1982, M.A. Cazier, 1 ♂ (AMNH_PBI 00392923) (AMNH). Douglas, 31.34444°N 109.54472°W, 29 Jul 1968, V.D. Roth, 3 ♂ (AMNH_PBI 00392931, AMNH_PBI 00392929, AMNH_PBI 00392930) (AMNH); 15 Aug 1968, V.D. Roth, 2 ♂ (AMNH_PBI 00392927, AMNH_PBI 00392928) (AMNH); 20 Aug 1969, V.D. Roth, 1 ♂ (AMNH_PBI 00392926) (AMNH). Huachuca Mountains, 5354 Ash Canyon Road, 0.5 mi W of Hwy 92, 31.38194°N 110.22444°W, 1554 m, 03 May 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411096) (USNM); 16 May 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411097) (USNM); 21 Jun 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411098) (USNM); 23 Jun 1992, N. McFarland, 3 ♂ (AMNH_PBI 00411099–AMNH_PBI 00411101) (USNM); 01 Jul 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411102) (USNM); 06 Jul 1992, N. McFarland, 2 ♂ (AMNH_PBI 00411103, AMNH_PBI 00411104) (USNM); 07 Jul 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411106) (USNM); 09 Jul 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411107) (USNM); 17 Jul 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411109) (USNM); 20 Jul 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411110) (USNM); 16 Aug 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411111) (USNM); 17 Aug 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411112) (USNM); 18 Aug 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411113) (USNM); 05 Sep 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411115) (USNM); 12 Sep 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411117) (USNM); 15 Sep 1992, N. McFarland, 2 ♂ (AMNH_PBI 00411116, AMNH_PBI 00411118) (USNM); 16 Sep 1992, N. McFarland, 2 ♂ (AMNH_PBI 00411114, AMNH_PBI 00411119) (USNM); 25 Sep 1992, N. McFarland, 1 ♂ (AMNH_PBI 00411120) (USNM). Portal, 31.91361°N 109.14083°W, 1500 m, 30 Aug 1976, J.D. Pinto, *Parthenium hysterophorus* L. (Asteraceae), 1 ♂ (AMNH_PBI 00083987) *Parthenium hysterophorus* L. (Asteraceae), 1 ♂ (AMNH_PBI 00083986) (UCR); 15 Jun 1980, R.T. Schuh, K. and R. Schmidt, light trap, 2 ♂ (AMNH_PBI 00175580, AMNH_PBI 00175581) (AMNH). Portal, 31.91333°N 109.14194°W, 11 Aug 1975, J.D. Pinto, 2 ♂ (AMNH_PBI 00083991, AMNH_PBI 00083992) (UCR). **Coconino Co.:** 3.5 mi S of

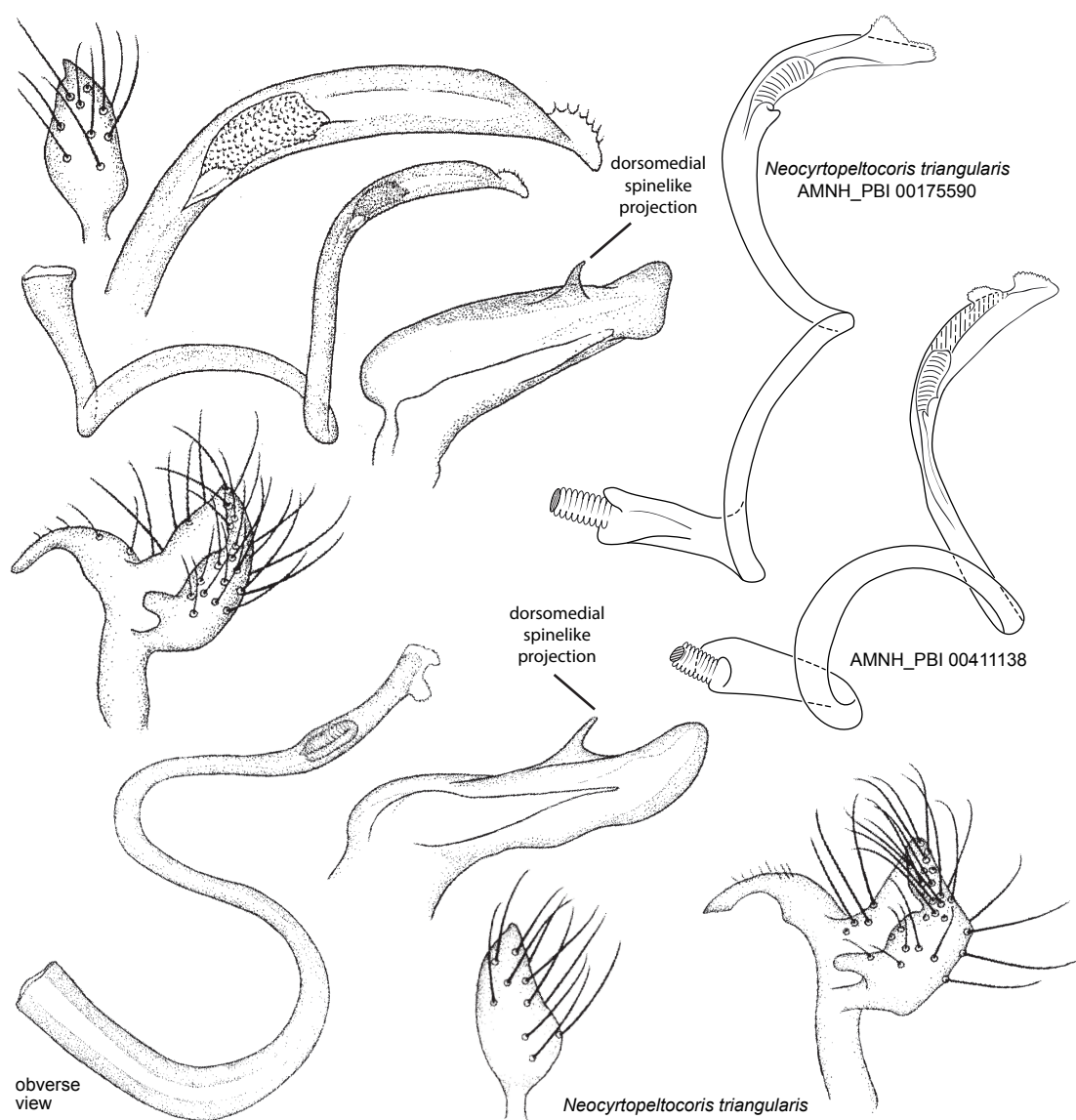


FIG. 8. Male genitalia of *Neocyrtopeltocoris triangularis*.

Sedona on Rt 179, T17N R6E S30, 34.8255°N 111.769°W, 1280 m, 15 Jun 1983, R.T. Schuh and M.D. Schwartz, light trap, 1 ♂ (AMNH_PBI 00175558) (AMNH). **Gila Co.:** 8 mi SW jct Rts 87 and 188 (off Rt 87), Tonto National Forest, 33.55989°N 111.21341°W, 1219 m, 27 May 1983–28 May 1983, R. Schuh and G. Stonedahl, 1 ♂ (AMNH_PBI 00392925) (AMNH); 27 May 1983–28 May 1983, R.T. Schuh and G.M. Stonedahl, light trap, 2 ♂ (AMNH_PBI 00175556, AMNH_PBI 00175557) (AMNH). Mazatzal Wild[erness Reserve] along East Verde River, 34.2948°N 111.66321°W, 758 m, 30 Apr 1981, D.A. and J.T. Polhemus, 21 ♂ (AMNH_PBI 00392938–AMNH_PBI 00392947, AMNH_PBI 00392950–AMNH_PBI 00392960) (JTP). Miami, 33.39667°N 110.87166°W, 22 Jul 1932, R.H. Beamer, 1 ♂ (AMNH_PBI 00391481) (KU). **Graham Co.:** Bonita, Post Creek Canyon, 32.6481°N 109.92617°W, 1692 m, 16 Jul 1917,

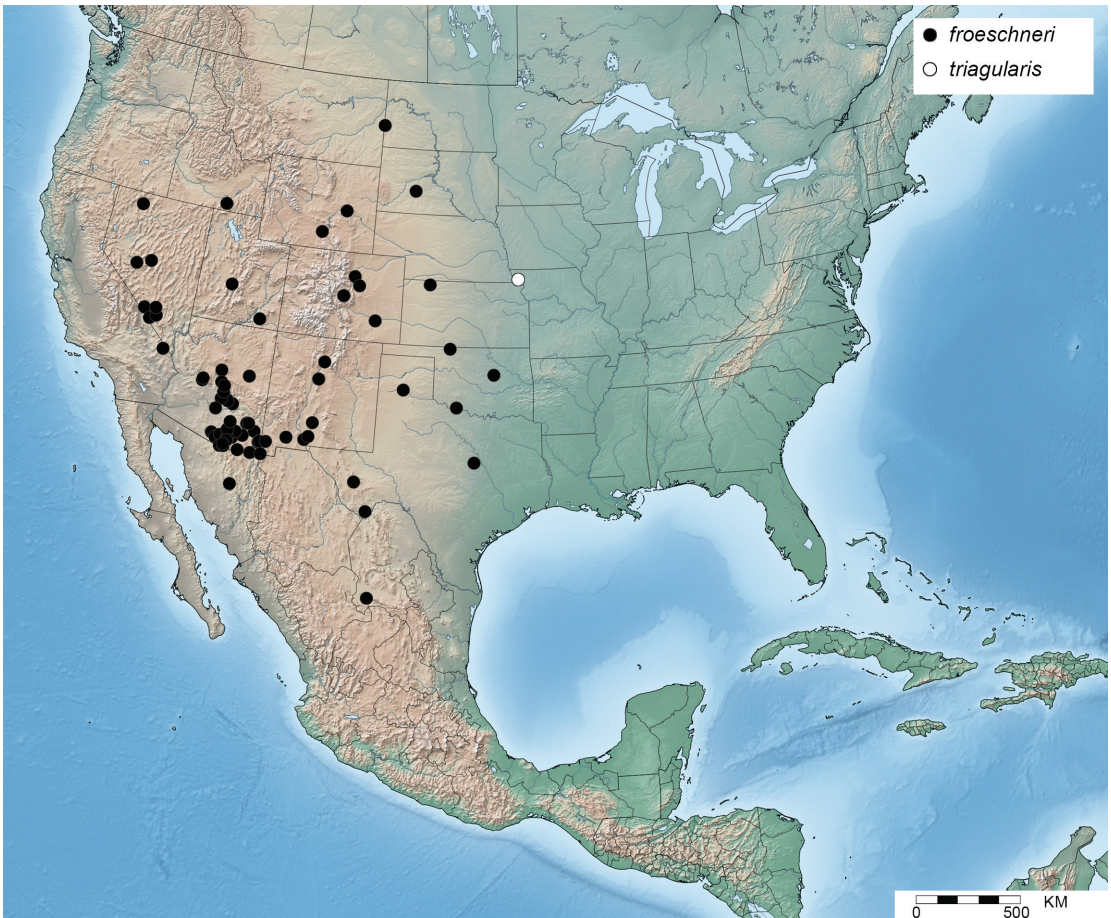


FIG. 9. Distributions of *Neocyrtopeltocoris* spp.

H.H. Knight, 9 ♂ (AMNH_PBI 00411153–AMNH_PBI 00411161) (USNM). Fort Grant, Pinaleno Mts., 32.62285°N 109.94591°W, 2134 m, 15 Jul 1917–19 Jul 1917, Cornell Univ. Biological Expedition, 1 ♂ (AMNH_PBI 00076965) (CUIC). Pinaleno Mountains, Stockton Pass, 32.64083°N 109.84306°W, 1631 m, 01 Jun 1983–02 Jun 1983, R.T. Schuh, G.M. Stonedahl, Light Trap, 20 ♂ (AMNH_PBI 00175559–AMNH_PBI 00175572, AMNH_PBI 00175574–AMNH_PBI 00175579), 1 ♂ (AMNH_PBI 00175573) (AMNH). **Maricopa Co.:** E of Sunflower [CL 1634], 33.85356°N 111.44581°W, 1035 m, 10 Aug 1982, J.T. Polhemus, 1 ♂ (AMNH_PBI 00392961) (JTP). Reavis Ranch Trail, 33.49111°N 111.15472°W, 1097 m, 19 Apr 1982, D.A. and J.T. Polhemus, 1 ♂ (AMNH_PBI 00392963) (JTP). Salt River Canyon at Apache Lake, 33.55811°N 111.53153°W, 610 m, 28 Apr 1981, D.A. and J.T. Polhemus, 1 ♂ (AMNH_PBI 00411606) (JTP). Sunflower, 33.8642°N 111.46763°W, 10 Aug 1982, J.T. Polhemus, 1 ♂ (AMNH_PBI 00392964) (JTP). **Navajo Co.:** 10 mi W of Woodruff, 34.76667°N 110.21667°W, 1631 m, 20 Apr 1971, J. May, 5 ♂ (AMNH_PBI 00410932–AMNH_PBI 00410936) (USNM). **Pima Co.:** 30 mi E of Quijotoa, Lot 542 sub 336, 31.97644°N 111.73154°W, 853 m, 28 Aug 1927–29 Aug 1927, Cornell University, 6 ♂ (AMNH_PBI 00076959–AMNH_PBI 00076964) (CUIC). Baboquivari Mountains, 31.8°N 111.5°W, 07 Jul 1935, E.D. Ball, 1 ♀ (AMNH_PBI 00186383) (USNM). Black Dike Prospect, Sierrita, 31.93333°N 111.26666°W,

1143 m, 26 Jul 1916–29 Jul 1916, unknown collector, 1 ♂ (AMNH_PBI 00392922) (AMNH). Madera Canyon, Santa Rita Mountains, 31.72713°N 110.87364°W, 1580 m, 15 Aug 1964, E. Schlinger, M. Irwin & P. Rauch, *Parthenium hysterophorus* L. (Asteraceae), 1 ♂ (AMNH_PBI 00083988) (UCR). Madera Canyon, Santa Rita Mts., 31.73054°N 110.87947°W, 1463 m, 02 Oct 1963, V.L. Vesterby, 2 ♂ (AMNH_PBI 00125665, AMNH_PBI 00125666) (UCD). Rincon Mountains, 32.20995°N 110.57526°W, 2286 m, 02 Sep 1928, A.A. Nichol, 1 ♂ (AMNH_PBI 00411162) (USNM). Sabino Canyon, 32.33012°N 110.79448°W, 901 m, 10 Aug 1953, G.D. Butler, 1 ♂ (AMNH_PBI 00186371) (USNM). Sabino Canyon, Santa Catalina Mountains, 32.192°N 110.4835°W, 843 m, 10 Aug 1953, G.D. Butler, 3 ♂ (AMNH_PBI 00410938–AMNH_PBI 00410940) (USNM). Santa Rita Experimental Range, 31.88166°N 110.86569°W, 985 m, 14 Apr 1989, T.J. Henry and A.G. Wheeler, Jr., 5 ♂ (AMNH_PBI 00411121–AMNH_PBI 00411125) (USNM). Tucson, 32.22167°N 110.92583°W, 732 m, 19 Apr 1924, A.A. Nichol, 1 ♂ (AMNH_PBI 00411149) (USNM); 07 Jun 1924, A.A. Nichol, 2 ♂ (AMNH_PBI 00411150, AMNH_PBI 00411151) (USNM). **Pinal Co.:** Sacaton, 33.07667°N 111.73861°W, 391 m, 06 May 1931, E.D. Ball, 1 ♀ (AMNH_PBI 00411163) (USNM). Sunspace Ranch near Oracle, 32.58592°N 110.83906°W, 1209 m, 30 Sep 1993, D.A. Polhemus, 1 ♂ (AMNH_PBI 00068139) (JTP). **Santa Cruz Co.:** Atascosa Mountains, Sycamore Canyon, 31.4384°N 111.1858°W, 1242 m, 03 Oct 1993, D.A. Polhemus, 1 ♂ (AMNH_PBI 00068143) (JTP). Calabasas Canyon, P.G., Atascosa Mountains, 31.45888°N 110.98583°W, 1049 m, 18 Apr 1981, D.A. Polhemus, 7 ♂ (AMNH_PBI 00392933–AMNH_PBI 00392937, AMNH_PBI 00411607, AMNH_PBI 00392924) (JTP), 1 ♂ (AMNH_PBI 00392932) (UCB), 1 ♂ (AMNH_PBI 00411126) (USNM). Santa Cruz River, 31.54063°N 111.02923°W, 1009 m, 06 Aug 1932, E.D. Ball, 1 ♂ (AMNH_PBI 00410941) (USNM). **Yavapai Co.:** 1 mi E of Yarnell, 34.22167°N 112.72918°W, 29 Apr 1981, D.A. and J.T. Polhemus, 2 ♂ (AMNH_PBI 00392948, AMNH_PBI 00392962) (JTP). Kirkland, Peoples Valley, Lot 542 sub 331, 34.3181°N 112.70757°W, 1372 m, 22 Aug 1927–24 Aug 1927, Cornell University, 6 ♂ (AMNH_PBI 00076944, AMNH_PBI 00076954–AMNH_PBI 00076958) (CUIC). **Unknown co.:** unknown locality, no date provided, 1 ♂ (AMNH_PBI 00410937) (USNM). **California: San Bernardino Co.:** 8 mi SE of Ivanpah, Lanfair Valley, 35.25878°N 115.20956°W, 25 May 1977, Saul Frommer, 1 ♂ (AMNH_PBI 00083993) (UCR). **Colorado: Adams Co.:** Denver, 39.91332°N 104.95324°W, 1640 m, 13 Jul 1909, W. J. Gerhard, *Baccharis* sp. (Asteraceae), 1 ♂ (AMNH_PBI 00411167) (USNM). **Elbert Co.:** 7 mi E of Parker, 39.51501°N 104.64124°W, 1876 m, 18 Aug 1983, D.A. and J.T. Polhemus, 2 ♂ (AMNH_PBI 00392968, AMNH_PBI 00392969) (JTP). **Otero Co.:** La Junta, 37.985°N 103.54333°W, 04 Sep 1977, J.T. Polhemus, 3 ♂ (AMNH_PBI 00392966, AMNH_PBI 00392967, AMNH_PBI 00411608) (JTP). **Unknown co.:** Colo 2213, no date provided, 1 ♂ (AMNH_PBI 00186372) (USNM). Colorado, no date provided, C.F. Baker, *Baccharis* sp. (Asteraceae), 1 ♂ (AMNH_PBI 00411168) (USNM). **Idaho: Cassia Co.:** 5 mi NE of Malta, 42.34507°N 113.31066°W, 1379 m, 16 Jul 1952, W.F. Barr, 1 ♂ (AMNH_PBI 00086780) (WFBM). **Kansas: Decatur Co.:** Decatur County, 39.8°N 100.46667°W, no date provided, F.X. Williams, 1 ♂ (AMNH_PBI 00391485) (KU). **Nevada: Humboldt Co.:** 40 mi SW of Denio, 41.47104°N 118.29838°W, 1257 m, 18 Jul 1927–19 Jul 1927, Cornell University, 9 ♂ (AMNH_PBI 00076945–AMNH_PBI 00076953) (CUIC). **Nye Co.:** 2.5 mi E of Gabbs on Route 844, 38.8°N 117.8°W, 1615 m, 01 Jul 1983, R.T. Schuh, M.D. Schwartz, 1 ♂ (AMNH_PBI 00175582), 14 ♂ (AMNH_PBI 00175587–AMNH_PBI 00175600), 3 ♂ (AMNH_PBI 00175584–AMNH_PBI 00175586) (AMNH). Beatty, 36.90855°N 116.7592°W, 1008 m, 23 Jun 1967, W. Gagne, *Parthenium hysterophorus* L. (Asteraceae), 2 ♂ (AMNH_PBI 00081256, AMNH_PBI 00081257) (UCB). Fairbanks Spring, Ash Meadows, 36.49023°N 116.34143°W, 689 m, 23 Jun 1951, Ted Frantz, *Parthenium hysterophorus* L. (Asteraceae), 1 ♂ (AMNH_PBI 00078576) (CAS). Mercury, M(T), “Lab,” 37.00766°N 116.11392°W, 1315 m, 15 Jul 1968, E. Beck, J. Merino, 1 ♂ (AMNH_PBI 00404969) (USNM).

Northumberland Canyon Rd., Toquima Ranges, T14N R44E Sec 31, 39.04652°N 117.00091°W, 1951 m, 28 Jun 1983, R.T. Schuh, M.D. Schwartz, *Sarcobatus vermiculatus* (Hook.) Torr. (Sarcobataceae), det. NYBG staff, 1 ♂ (AMNH_PBI 00175583) (AMNH); 28 Jun 1983, R.T. Schuh and M.D. Schwartz, 2 ♂ (AMNH_PBI 00175601, AMNH_PBI 00175602) (AMNH). **New Mexico: Bernalillo Co.:** Tijeras, along I-40, 35.08083°N 106.3875°W, 1931 m, 01 Jun 1983, J.T. Polhemus, 8 ♂ (AMNH_PBI 00068138, AMNH_PBI 00068140–AMNH_PBI 00068142, AMNH_PBI 00068144, AMNH_PBI 00068145, AMNH_PBI 00411604, AMNH_PBI 00411605) (JTP). **Dona Ana Co.:** Mesilla Park, 32.27°N 106.80028°W, 12 Jul 1917, H.H. Knight, 2 ♂ (AMNH_PBI 00411147, AMNH_PBI 00411148) (USNM). Organ, 32.42556°N 106.59611°W, 03 Jul 1940, D.E. Hardy, 2 ♂ (AMNH_PBI 00391484, AMNH_PBI 00391482) (KU). **Hidalgo Co.:** Double Adobe Ranch, Animas Mountains, 31.94889°N 108.80667°W, 1676 m, 15 Aug 1952, H.B. Leech and W.J. Gertsch, *Parthenium hysterophorus* L. (Asteraceae), 1 ♂ (AMNH_PBI 00078698) (CAS). Guadalupe Mountains, 31.36455°N 108.9881°W, 25 Aug 1971, E.E. Grissell & R.F. Denno, 2 ♂ (AMNH_PBI 00125671, AMNH_PBI 00125672) (UCD). **Santa Fe Co.:** 8 mi E of Los Alamos, 35.88806°N 106.16363°W, 04 Jul 1982, D.A. and J.T. Polhemus, 5 ♂ (AMNH_PBI 00392970–AMNH_PBI 00392974) (JTP). **Sierra Co.:** 25 mi W Tularosa, 33.07314°N 106.45097°W, 01 Jul 1940, D.E. Hardy, 1 ♂ (AMNH_PBI 00391483), 1 ♀ (AMNH_PBI 00391394) (KU). **North Dakota: Golden Valley Co.:** Beach, 46.91667°N 104°W, 847 m, no date provided, C.N. Ainslie, *Baccharis* sp. (Asteraceae), 1 ♂ (AMNH_PBI 00411164) (USNM). **Oklahoma: Creek Co.:** Stroud, 35.75525°N 96.64687°W, 262 m, 10 Aug 1941, R.H. Beamer, 1 ♂ (AMNH_PBI 00391392) (KU). **Tillman Co.:** Grandfield, 34.23067°N 98.68742°W, 05 Jul 1937, Standish-Kaiser, *Baccharis* sp. (Asteraceae), 2 ♂ (AMNH_PBI 00411169, AMNH_PBI 00411170) (USNM). **Woodward Co.:** Alabaster Caverns State Park, 36.90194°N 99.14555°W, 570 m, 08 May 1974, G.F. and S. Hevel, 1 ♂ (AMNH_PBI 00271777) (USNM). **South Dakota: Haakon Co.:** Philip, 44.03943°N 101.6651°W, 660 m, 23 Jun 1923, H.C. Severin, 1 ♀ (AMNH_PBI 00404983) (CNC), *Baccharis* sp. (Asteraceae), 1 ♂ (AMNH_PBI 00411165) (USNM). **Texas: Bosque Co.:** Texas [Norse], 31.75°N 97.66667°W, 262 m, between 1870 and 1880, [Belfrage Collection], 1 ♂ (AMNH_PBI 00411146) (USNM). **Brewster Co.:** Big Bend National Park, Panther Junction, 29.31748°N 103.21783°W, 1219 m, 31 Aug 1971, E.E. Grissell & R.F. Denno, 2 ♂ (AMNH_PBI 00125668, AMNH_PBI 00125669) (UCD). **Randall Co.:** Palo Duro State Park, near Amarillo, 34.93333°N 101.66222°W, 924 m, 27 Jun 1968, J.E. Slansky, 1 ♂ (AMNH_PBI 00125673) (UCD). **Utah: San Juan Co.:** Grand Flat near Collins Canyon, 37.42167°N 110.16056°W, 1707 m, 28 May 1984, D.A. and J.T. Polhemus, 3 ♂ (AMNH_PBI 00068149, AMNH_PBI 00068172, AMNH_PBI 00068181) (JTP). **Sevier Co.:** Richfield, 38.7725°N 112.08333°W, 15 Jul 1929, E.W. Davis, *Baccharis* sp. (Asteraceae), 1 ♂ (AMNH_PBI 00411171) (USNM). **Wyoming: Carbon Co.:** Rawlins, 41.79111°N 107.23806°W, 05 Jul 1961, H. and A. Howden, 1 ♂ (AMNH_PBI 00404968) (CNC).

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